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## ON MALARIOUS DISEASES.

For the American Farmer.

*On the best means of guarding against Malarious Diseases in the Low Country of the Southern and Western States. By JAMES GREGORIE, of Christ Church, South Carolina.*

### No. I.

At the age of seventy-three, and having passed a great part of my life as a planter in the low country of South Carolina, I have had full opportunity of observing all the deplorable effects of Malaria, on those engaged in country affairs, from being driven annually from my own property, to seek shelter from infection in Charleston, or on the sea-beach of some of our sea-islands. The consequences of an absence from home, during five months of every year of my life; from my people in time of sickness; from crops of all kinds at harvest time—the inconvenience and labor in removing such a distance twice a year, and the tedium of an idle summer, had long forced upon me, as a matter of profound reflection, the possibility of finding a remedy for such a calamitous state of affairs. Many circumstances had brought conviction to my mind, that some mode of protecting those who are compelled to live in the country, against ague and fever, and other malarious diseases, might be found. My opinion was confirmed by the perusal of foreign writers on the subject, and three years ago I laid my theories and information before the public, in a few essays through the Charleston newspapers.

As soon as these essays appeared, I was furnished by gentlemen of the first respectability, with Carolina facts, proving the truth of what I had already published, and which hitherto might have been considered as scarcely more than mere conjecture. Some additional numbers conveyed through the same medium this strong support given to what I had already said on the subject; and I have every reason to believe, that a serious impression was made, wherever the whole had been read and reflected on. Before I submit to your readers, (as concisely as practicable,) a synopsis of the information collected, and the inferences and lessons to be drawn from it, I would observe, that I found by inquiry amongst our best informed scientific men, that the most carefully conducted researches and experiments, by our own, by French and other European Chymists and Philosophers of the highest

standing, (and there have been many made,) had altogether failed in detecting Malaria itself. Independent of this, as it overwhelms our whole Southern and Western country, and is found from Canada, to the very limits of South America; to seek for disinfectants, or for security in any other shape than that of shelter from infection, would be as idle as it would be useless. To give an idea of the extent of the evil in this part of South Carolina, I mean the low country, I would observe that there is not a plantation known, where (putting aside rice fields, rivers, ponds and ditches,) the settlement is exposed to the mere cultivated high lands, to pastures or old corn and cotton fields, that a stranger to the climate could pass a single night, without almost certainty of losing his life from severe bilious fever. Persons accustomed to the climate, do persevere through incessant attacks of intermittent, and even higher grades of fever, to visit such plantations and sleep a night or two; but finally, and even in old age, sink under a last attack, or from a constitution broken down by long continued effects of Malaria—the fatal cause of all our Southern absenteeism, and the bane of our otherwise most happy land.

A fatal delusion, a most melancholy mistake, in its effects, has long reigned paramount amongst all our planters without exception; it is that of having extensive clearances around their dwelling houses; either of cultivated land, or of old fields thrown out of use for a year or two. Many settlements cover from two to five acres, with buildings scattered here and there, useful it is true, and supposed to be protected by the owner's eye, which yet are not seen by him for a whole summer. These places being unsheltered by trees, are peculiarly and fully taken possession of by the most fatal exhalations.

About the beginning of last century, it was customary to leave Charleston in the Summer, and retire to the country without apprehension. Dorchester, about sixteen miles from Charleston, was a favorite resort. This village has been abandoned nearly a century, having become dangerous to health—its sight can only now be found by the ruins of the church. Jacksonburgh and other places have gone to similar decay. For some time after the Revolution, the period of leaving the plantations for the summer, was from the first of July to the end of the month. After the introduction of cotton, about 1794 or 5, as the country became cleared of

woods, the time to leave their homes was changed by the planters to June, from the first to the tenth. Within the last twenty years it is again altered to the middle of May. Even at this comparatively early season, precautions against Malaria are highly necessary on most places, and are not always effectual, even in that month.

I now proceed to give you and your readers, Mr. Editor, as briefly as I can, the precautions to be taken to guard against the malarious diseases of our country, and of others subject to the poisonous exhalations we are treating of; with as many facts and extracts as will prove the influence which such measures will have in preserving life.

JAMES GREGORIE.

*Christ Church Parish,*  
South Carolina, Feb. 20, 1850. }

## NO. II.

To insure protection from Malaria in dwelling houses in our Southern country, during the summer and fall, they must either be closely surrounded by the forest, or by umbrageous forest trees, with a thick undergrowth of bushes for a width of two or three hundred yards. (1.) If such situations cannot be had, the sleeping rooms ought to be in lofty buildings surrounded by walls, or fences equally close and of the height and proximity to the house of those in populous cities or towns. The inhabitants in this case ought to sleep always as near the top of the house as possible, but never near the ground. (2.) Windows and doors ought also to be shut up an hour before sunset, and not opened in the morning until the sun has risen an hour or two. Those who strive to keep their health will be wise to follow the same rule in being at home in the evening, or leaving it in the morning. (3.) It is of no importance what kind of trees the wood is composed of, provided they are close and thick, and that the ground is well filled with bushes and undergrowth. It is well known that miasmatic exhalations are heavier than the common atmosphere; even walls and fences, therefore, turn them aside, when carried forward by the wind;—hence, on the same principle, this is one cause why trees and bushes, which arrest their progress, are a protection. But in addition, it is a well established fact, that in the thick woods, no dew is to be found even in the night. As in the forest, there are such natural causes of security, so in the open country, height from the ground, and shutting up the house, are the best artificial substitutes to adopt, until trees can be raised around the house, to afford sufficient shelter. (4.)

To build in the vicinity of rice-fields, or the reserves of fresh water rivers, lakes or ponds, or to practise ditching or open draining near dwelling houses, in the Southern states, is too often attended with serious sickness to the inmates, even early in the year. The fatal time in all hot climates, is, on the drying up of the water, and the most deadly, when to all appearance it has entirely dried away; but more especially is the danger increased tenfold by exposure to the malaria at night. (5.)

Some years ago, when the writer began his enquiries on the subject of health, he applied to one of the most experienced planters for information on the health of overseers,—his reply was, “on the place near you, in six years I have had one man who is still alive. On the plantation on—river, in the same time, I have had six overseers, every one of whom died there.”

When the foregoing statements are duly reflected upon, and when the additional fact is known, that the judicious use of the Sulphate of Quinine has given so perfect a controul over malarious diseases as to enable the medical practitioner (who has put aside his old practice and prejudices,) to arrest intermittent and remittent fevers, after the first or second attack; we think that by the further blessing of God, these diseases, the very destruction of our comfort and prosperity, might be banished from the domicile of every careful agriculturist, who desires to live upon his own land the whole year round.

I respectfully submit this subject to your numerous readers, Mr. Editor, with the final remark, that it ought to be brought to the notice of all those who are compelled to live upon their farms, or who, as overseers, occupy, in summer, the place of the proprietors of plantations. These are the individuals who are able, at first, to aim at preserving sound health under painful difficulties, and who, if they experience the efficacy of any method of ensuring it, ought to spread knowledge of that method far and wide. I am, &c.

JAMES GREGORIE,  
Of Christ Church, S. C.

*Proofs in support of this Principle, in South Carolina.*

(1.)—*1st Fact.*—Communicated by T. W. Glover, Esq., of Orangeburg.—The village of Orangeburg has been founded upwards of a century. The original site was about half a mile from the river. The forest trees were generally removed and their places had not been supplied. The village was reputed to be sickly at an early period. In 1815, many of the inhabitants removed five miles to the Poplar Springs in search of health, and they continued to go there every summer till about 1829. In that year, says Mr. Glover, I was induced to change my residence, that I might be nearer to my business, and built about half a mile from the old village, in the midst of the ‘forest—mostly oaks;’ believing I should have health nearer home. In a few years, several other persons became my neighbors, and to this time (1846) we have no reason to regret the change of residence. We have in the new village enjoyed for sixteen years such a degree of health, as we believe is not surpassed any where.

*2nd Fact.*—Communicated by a new relation of the party.—In 1817, Dr. Capers removed to the plantation of Mr. Vanderhorst, St. Helena, S. C., where he superintended the health of the negroes on the plantation, practising also in the neighborhood: the owner at that time living in England. He resided there seventeen years with perfect and uninterrupted good health. The house was surrounded by a belt of trees on three sides, of about two tasks wide, consisting of live oaks and a mixture of all sorts. The other side was open to salt water. The under-

growth was left uncleared, and consisted of myrtle and the various bushes of the Sea-islands. Mr. Vanderhorst, at one time, ordered these trees and bushes to be cleared away to give a view of the house, intending to sell the property; but Dr. Capers having informed him that if he did so, he would leave the place, they were left untouched.

**3d Fact.**—Communicated by the Doctor himself.—About the year 1832, Dr. Yates, who had lived on Wadmalaw, where he had been liable to fever and ague every summer he resided there, removed to Page's Point, Prince William's Parish, S. C., where the dwelling house is surrounded on three sides by trees to some extent. The other side looked out upon an extensive salt water marsh. There he enjoyed uninterrupted health during his entire residence which was for six years.

**4th Fact.**—Communicated by a native inhabitant of Beaufort, S. C.—At the beginning of the present century, the west side of the town of Beaufort was known to be perfectly healthy. Many large and elegant houses were built there, on the outskirts of the town; and the College with a residence for the principal of that institution was also located there. Beyond this, the country was in woods. And although a cotton field was soon after cleared by Mr. Bedon, near the town, yet its health was unimpaired; as the Episcopal glebe land, then in woods, still covered the adjoining houses by a broad belt of trees. About 1804 or 5, this belt of woods was cut down by the Rev. Mr. Hixt in clearing the glebe for cultivation. The malaria produced from this land, was thus not only introduced, but also that from Mr. Bedon's cotton field and the country beyond. The consequences were so fatal, that not only the college was abandoned, having, with the various dwelling houses, become subject to country fever, but it is believed that every house which could be removed has been taken down and carried elsewhere.

**5th Fact.**—Judge N. resided in Union District, at the distance of a quarter of a mile from the river, having, with his family, perfect health for many years, while protected by a wood from malaria. After his death, his children wishing to get a view of the river, were induced to clear away the intermediate undergrowth of bushes, and to trim up the trees. In the fall, the family were attacked by intermittent fever, and it is said several deaths ensued.

**6th Fact.**—About thirty years ago, Dr. R. removed from St. Matthews to Columbia, to a house situated just at the head of a ravine, running on the rear of the South Carolina College, and which before had been perfectly healthy. He cut down the underbrush between his house and the ravine just before the summer set in. He had been there but a few months, when most of his family were taken extremely ill of fever; produced without doubt by admitting the access of malaria, from the forementioned ravine; proving incontestably the security which such a growth affords against the introduction of an atmosphere prejudicial to health.

**7th Fact.**—The settlement of Pineville (St. John's) was found to be a safe and healthy retreat in the summer time for many families. Lulled into security by long continued health, they introduced gardens, and suffered field culture to approach the houses. Sickness and death dispersed the inhabitants for years. But they are now enabled to return to the settlement once more in safety, in consequence of the trees and bushes having been permitted to grow up around them.

**8th Fact.**—Mr. H., a gentleman well known in Charleston, determined in the year —, to reside in future near his property on Cooper River. The experience of many years having shown that the Pine land settlements, if properly chosen, were certainly to be depended upon for health, went out with a friend to select a sight for a dwelling house. After searching the extensive pine barren woods, he decided upon a knoll thickly covered, and surrounded on every side by tall pines, and built his house. Unfortunately the want of an essential requisite to protect health, was overlooked by Mr. H. as there was no undergrowth for a mile or two around, and more particularly none in the direction of an extensive rice field reserve, which lay at a considerable distance, and the influence of which was unsuspected. The family remained in perfect health until the time the rice crop required what is called the long flow, when the water is left on the fields till the crop is ready for harvest. The water in the reserve having been all drawn off to cover the fields, the malaria arising from the bottom and margin of the reserve, was carried by the wind through the clear pine land, under the tall trees, as far as the dwelling house of the unfortunate family. The father and mother both died, and it is believed, several of the children.

*From Dr. Parish's Lecture, delivered in Philadelphia.*—Fancy Hill was situated a few miles below Philadelphia, on the Jersey shore. The estate was covered with wood, but a settlement had been formed, and 60 acres of ground cleared, on the shore of the Delaware. The house built of brick, stood about 25 feet above low-water mark, fronting South. It was bounded North, South and East, by wood land. At the lower boundary of the tract, the river forms an extensive cove with mud flats. From this to Fancy Hill, there was half a mile of close thick-set underwood, 50 yards in width, and between the house and this fruitful source of disease, there was besides interposed a barrier of pine timber so closely set, that a horse could not pass it. This barrier was cut down in 1810 and '11, to give a prospect down the river, and the ground was formed into a water-melon patch. The opposite side of the Delaware at this place admits the Schuylkill, and Hollander's creek, both of which have low and swampy shores. The house was thus surrounded by fruitful sources of miasma, and by cutting down the pine wood a complete entrance was given to the pestilence by which it was driven to the house.

In the latter part of the year, a fever broke out in the family, of so malignant a character, that in some cases it ran on to death in five days; on some it was remittent, in others intermittent; but not less than 70 persons were more or less diseased from this source.

Although the experience of our own country is thus clear and decided in proving that trees are a sure defence against malaria, yet such is our anxiety to produce a settled conviction of the fact on the minds of our readers, that we quote from Ferguson the following additional pointed statements:\*

\* Dr. Ferguson's remarks were originally published by the Royal Society of Edinburgh, before whom they had been read in 1820. They were afterwards republished in the Philadelphia Journal of Medical and Physical Science, vol. 7, with great commendation.

In 1815, '16 and '17, he was employed by the British Government in making a topographical

"Another property of the marsh poison is, its attraction for, or rather its adherence to lofty umbrageous trees. This is so much the case that it can with difficulty be separated from them; and in the territory of Guiana, particularly, where these trees abound, it is wonderful to see how near to leeward of the most pestiferous swamps, the settlers will venture to place their habitations, and that with impunity, provided they have this security."

"The localities of the plantations situated on the windward banks of the rivers that intersect Guiana, and are generally covered by swampy woods in close vicinity, exemplify this fact in a remarkable manner; and at Paramaribo, the capital of Surinam, the trades-wind that regularly ventilate the town and renders it habitable, blows over a considerable tract of swamp at a short distance, but which fortunately for the inhabitants is thickly covered with umbrageous forests. Experience besides has shown that there, as in all other new lands, the cutting down of those trees in the swamps, has ever been a fatal operation in itself, and in all probability would be productive of pestilence in the town."

"The town of New Amsterdam, Berbice, is situated within short musket shot to leeward of a most offensive swamp, in the direct track of a strong trade-wind that blows night and day, and frequently pollutes even the sleeping apartments of the inhabitants, with the stench of the swamps; yet it had produced no endemic fever worthy of notice, even amongst the newly arrived, for a period of years previously to my visiting that colony."

[*Phila. Journ.* 7th vol. p. 13.]

"When I was last in the West Indies," again says Dr. Ferguson, "I recommended, and if not done, recommend still, that the deep marshy isthmus outside the post of Prince Ruperts, Dominica, from which it was believed to derive its malaria, should be covered with the closest growing trees; and that the brush-wood covering the landward face of the inner hill, which had so carefully been cleared away should forthwith be restored.—*Edinburg Med. and Surg. Journ.* 1843—p. 297.

"In Sicily," says Maccullock, on Malaria, "and also in Greece, it is observed and very universally, that valleys not only confine, but conduct malaria; this being a very conspicuous fact in the latter country, in many narrow vallies, which open to the sea, and thus conduct the breeze inland through pernicious tracks, to places not essentially unhealthy. Similar cases occur in Italy as elsewhere. They indicate the obvious remedy, to plant screens of trees across such vallies so as to intercept the current.—*Maccullock*, p. 114.

(2.) *Proofs from Medical writers of high standing.*

—In his work on the diseases of the British army while in Holland, Sir John Pringle states: that "such as lay in the upper stories enjoyed much better health than those on the ground floors:" p. 13. He states further: "that the Quartermasters were ordered to refuse the ground floors:" p. 95. The diseases spoken of were such as are produced by malaria, dysentery, diarrhoea, but principally intermittents. Dr. Madden, an excellent physician, in his travels in Egypt, says:—"In Mr. Salt's house

health survey of all the West India Colonies, which afforded him opportunities of improving the observations he had made elsewhere, upon pestiferous mias mata of a kind that, he says, he could hardly have anticipated. He stands at the head of the authors on this subject.

alone, I am now attending nine of his domestics with ague; and it is a curious fact that those persons only who inhabit the ground floor, are the victims of the disease: not one of those who occupy the upper story have taken this disorder." In our own country, we have been informed by a young medical friend, who passed three months in the Blockley Alms House, Philadelphia, situated on the Schuylkill, (sleeping himself in the third story,) that from 50 to 60 cases of intermittent fever occurred in the establishment the year he was there; every one of which originated on the ground floor—none higher. He stated further, that the porter was usually the first affected.

(3.) Two families, well known to the writer of this article, determined to pass the summer on their plantation near Charleston. The house is remarkably lofty, situated upon, and nearly surrounded by a salt-water river, a mile wide, and from its situation, promising the security of health, excepting on one side, which was exposed to the cultivated fields. The one family, consisting of an aged relative, a boy of twelve, and two children of four and six years of age, retired to the house regularly before sunset every evening, and shut down the sashes, as here recommended. The other family, consisting of the mother, two boys of ten and twelve, and two young girls, did not take the same precaution, but generally remained out in the open air after sunset. On one occasion, the mother and one son, continued out an hour after sun-set. This last family were all taken down with intermittent fever in succession, the son, last mentioned, most violently. One of the girls, who was subject to a chronic affection, died from the malarious attack having assumed the type of her complaint. The other family who retired before sunset, and shunned the night-air, had no symptom of complaint of any kind. On the 10th of August, at the entreaty of their friends, both families removed to the sea-shore for the summer.

(4.) "The malaria being heavy, and therefore low, may be stopped by low hills, woods, and even buildings. For the same reason the difference of exposure is very abrupt in its effects: only a narrow road separates the two villas Lodovisi and Medici; yet, the former is subject to the malaria, and the other a refuge from it. At St. Calistus, the cells next the country are unhealthy in summer, while, the opposite side of the convent is safe."—*Forsyth*, pp. 265-269.

And so it is in our own immediate neighborhood of Charleston. The former hospital at Fort Johnson was healthy at one end, but at the other subject to country fever from Malaria.

A house on one of the Islands of the harbor, well known to the writer, was subject to the same misfortune at one corner, from its proximity to a range of small ponds, and the lower story altogether unhealthy from the same cause. In Beaufort, South Carolina, two kitchens are within fifteen feet of each other; the one facing the West, and having all its windows on that side, is liable to fever and ague; the other facing the East, and having no windows to the West, has been exempt.

These cases are quoted to show that dead walls, whether inside or outside of dwelling houses, will stop the transmission of miasma, and thus secure health. The size of the trees to be reserved as a protection to plantation settlements, we presume need not be higher than the common run of fruit trees, (20 feet high,) and we should suppose the fig



tree peculiarly fitted to keep out noxious exhalations, from the unusual thickness of its foliage. If these conjectures are correct, those who delight in ornamental gardening may make these protecting belts of wood, objects of great beauty and taste, as well as of profit and usefulness, in raising fruit of every description.

All the ornamental myrtles and other shrubs might fill the wood as undergrowth, and as no dew is found in the forest, the evenings might be spent in more enjoyment than in towns.

We have the authority of Dr. Backman, an eminent botanist of Charleston, for saying that if he commences botanizing early in the morning, he betakes himself to the thick forest, until the sun has produced effect in the less condensed wood. In the first, Dr. B. says, no dew is found. Two friends now residing in Christ Church, and who removed to Alabama at its first settlement, have repeatedly declared that the country there, was perfectly healthy so long as it was in woods. They constantly camped out in the woods in hunting, and found no dew in the night there, even on the barrel of their guns. As the country was cleared to plant cotton, it became more and more sickly, until they finally returned to Carolina.

(5.) "The most ignorant peasant of Lincolnshire knows that there is nothing to be apprehended from the ditches of his farm, till they have been dried up by the summer heat."—*Ferguson*.

"But if facts should be required respecting the pernicious effects of ditches, or drains, Walcheren itself seems to furnish unexceptionable evidence; since the soil itself is sandy, being a mixture of clay and sand, and it appears to be from the drains chiefly, that its most pestiferous air is produced."—*Macculloch*, p. 43.

"In the Campagna of Rome, which is also a dry soil, the malaria seems similarly to be produced by the drains."—*Ibid*.

"But among some more pointed facts of this nature which admits of no dispute, such was the effect of draining the marsh of the Chateause near Bordeaux. A succession of bad fevers, before unknown, commenced immediately upon the drainage, abating themselves first in that part of the town which lay nearest to the land reformed, and lasting through many years; proving so severe in 1805, that 12,000 people were affected, out of whom 3000 died in five months."—*Ibid*. p. 56.

"Early in 1809," says Ferguson, "the army advanced in June towards Spain (from Portugal,) in a healthy condition, during very hot weather. The weather had been so hot for several weeks as to dry up the mountain streams; and in some of the hilly ravines that had lately been water-courses, several of the regiments took up their bivouac, for the sake of being near the stationary pools of water that were still left among the rocks. The staff officers who had served in the Mediterranean, pointed out the dangerous nature of such an encampment; but as its immediate site amongst dry rocks, appeared to be quite unexceptionable, and the pools of water in the neighborhood perfectly pure, it was not changed. Several of the men were seized with violent remittent fever before they could remove from the bivouac the following morning. The army advanced to Talavera through a very dry country, and in the hottest weather fought that celebrated battle, which was followed by a retreat into the plains of Estremadura, along the course of the Gudianna river, at a time when the country was so

arid and dry, for the want of rain, that the Gudianna itself, and all the smaller streams, had in fact ceased to be streams, and were no more than lines of detached pools in the courses that had formerly been rivers. There they suffered from remittent fevers of such destructive malignity, that the enemy and all Europe believed that the British host was extirpated."

The following notice will apply to South Carolina, or any of the States south of it, with equal propriety as it does to Africa; the coast fever is our country fever.

*The Coast Fever.*—"We have just received the painful intelligence that Admiral Dacres' only son, Commander James Richard Dacres, of Her Majesty's sloop Nimrod, and Lieutenant George J. Loch, of the same vessel, went lately on shore at Quilmane, in the Mozambique, where they unfortunately remained during the night, sleeping with the windows of their bedroom open. The following morning they returned on board, apparently quite well, but, 12 hours afterwards, were both seized with that dangerous malady, the coast fever, which, in the course of a few days, terminated fatally."—*South African, Cape of Good Hope, March 11.*

#### KETTLEWELL & DAVIDSON'S RENOVATOR.

We seized an occasion some days since of visiting the factory of these gentlemen, having been invited so to do, and was very politely shown by the first named of the firm, the various substances which comprise the constituent elements of their "Renovator"—most of which were undergoing the process of preparation: and from our knowledge of the properties of the several ingredients, we have no hesitation in affirming, that, if the proportions of each be as represented—and of that we have no doubt—their "Renovator" cannot fail to prove a most efficient improver of the soil. All the substances used in its composition, are essential to the healthful growth of the cultivated plants, as well as to the perfection of their structures and fruits.

Messrs. K. & D. manufacture their own ammonia, which we examined and found excellent in quality. On inquiry as to the relative quantity of this salt used by them in the preparation of their "Renovator," we were assured, that it was ten per cent.—a quantity amply sufficient, and we were pleased to learn, that they converted it into the sulphate form in the process of their manipulations—the form which we most approve of, because it economises that highly nutrient principle, and thereby prolongs its usefulness. Though ammonia is not as active as a sulphate, as it is in the carbonate form, its benefits are more lasting, and will, in the course of a rotation of crops, yield a greater amount of products; and as a consequence, bring more money into the farmers' pockets.

Their bones, which also enter into the composition of their fertilizer, are not previously boiled, a fact which increases their value, as they retain all their cartilagenous and other organic remains, which is not the case with those which may have been boiled, that operation depriving them of nearly all else save their phosphates.

SUSSEX CO. VIRGINIA.—A letter to the Editor dated the 15th ult. from this county, says:—

"The Wheat crops in this portion of Virginia look well and give promise of a very fair return, having gone through the winter remarkably well, and have not been affected with the fly."

## WORK FOR THE MONTH.

The period is upon us, when every farmer who expects to make such a corn crop as will prove remunerating, should call to his aid all his energies of mind and body, as delay, only for a few days, may endanger his crop and render unrequiting even the best directed industry; for time now is everything, so far as the successful cultivation of this particular crop may be concerned. With this brief preliminary, we shall at once address ourself to point out the work which requires prompt attention

### ON THE FARM.

**Corn planting.**—Indulging in the hope that your corn ground has already been liberally manured, thoroughly and deeply ploughed, harrowed, and rolled, we take the liberty of recommending such as may not have done so already, to proceed at once and get in their corn. In the expectation that they have given their grounds a good dressing of manure, broadcast, we advise them to prepare a mixture, per acre, of 5 bushels of ashes and 1 bushel of plaster, and 10 bushels of rich mould, woods mould, or rotten dung, and give to each hill of corn a half pint of the mixture, either at the time of planting, when the corn first comes up, or at the first working.

If the ground has been in clover, or grass, and they apprehend danger from the attacks of the grub or cut worm, we would advise them to sow about two bushels of salt, broadcast, per acre, over the field. This, so far as our experience goes, is one of the best remedies we ever tried to arrest the mischief of these destructive enemies of the corn plant.

It should be a matter of principle with every corn planter, to get done the setting of his corn crop between the 1st and 10th of this month; and equally so, to keep it clean of weeds and grass from its first coming up, until he lays it by. Upon the proper mode of culture, we have no remark to make, additional to our advice given last month, to which we refer such of our readers as may need information upon this branch of his farm labors, without in the least desiring it to be thought, that we claim for our plan any exemption from error; but merely urging it as one by which we have succeeded ourselves.

**Potatoes.**—As we are taught by the experience of the last four years, that the early planted potatoes have succeeded best, we advise our friends to get in their fall crop of Irish potatoes, as early in this month after they have got in their corn crop as possible. Our opinion is, that they should be in by the 20th of this month. For the mode of culture, we refer to page 307, March number of this journal; and will only remark, that a full crop of this excellent root, can only be obtained by bountiful manuring, perfect and deep ploughing, and cleanly culture, that when thus cultivated, it is among the most profitable of all crops; whereas, when neglected, no reasonable man should expect to find anything but a small product, and that as a punishment for his want of attention—for his neglect of a positive duty.

**Oats.**—This crop should have been sown a month ago, up and some inches high; but if there be any, who has not got his oat crop in, he may sow the first week in this month, provided he aids his land by a good dressing of nutritive manure.

**Pumpkins.**—This crop should be got in early this month, and no farmer or planter should neglect putting in a sufficiency to feed his milch cows during the entire fall, and to enable him to alternate the feed of his hogs during the first week or ten days after he puts them up to fatten in late fall. When the vines first come up, dust them for several mornings in succession, while the leaves are wet with dew, with a mixture made of ashes, plaster, scotch snuff and flour of sulphur, in the following proportions: to every bushel of ashes, add  $\frac{1}{2}$  bushel of plaster, 1 lb. scotch snuff, and 1 lb. of the flour of sulphur, mix the whole well together and dust the plants as above directed, until the striped bugs are no longer to be dreaded. We have sometimes successfully used a decoction of assaefetida. The watering of a large patch of pumpkins with this decoction, is a tedious operation, but then, when one has gone to the trouble of pitching his crop, he should use all possible means to preserve it from the destruction of its insect enemies. One of the surest plans to prevent the ravages of the striped bugs, is to go forth at early dawn, examine your pumpkin hills, catch and kill the bugs. If taken in hand with a good heart, this is not so herculean a job as it first appears to be, it is one which a child can perform as well as, if not better, than a grown person.

**Millet.**—Persons engaged in farming, who may not have so far progressed as to have provided permanent hay crops, will find in this grass a most excellent substitute. It may be grown ready for the scythe in six weeks; and if grown in any friable soil, which has been generously manured, well and deeply ploughed, perfectly pulverized by harrowing and cross harrowing, will yield its three and four tons to the acre, of as good hay as any husbandman need desire for either horse, mule, cow or ox. It is rich alike in all the fat and life-sustaining principles, as oil and nutritive matters. He who has his timothy meadows or his clover fields to go to for his hay provender, need not, of course, sow millet, but he whose farm does not afford these resources, should, by all means, put in a few acres to furnish hay for his pleasure and working animals.

**Quantity of seed per acre.**—When hay alone is the object, from three to four pecks per acre, of seed should be sown, broadcast. If grain be the object, two pecks of seed per acre, will be enough.

**Time of cutting and curing.**—If grown for hay alone, it should be cut when fully in bloom, or just when the grain on the extreme point of the head begins to turn yellow. If grown for grain and hay, it should be cut when about one-half, the upper half, of the head assumes a golden hue. In the latter case, it should be bound in shocks as other small grain, dried in the field, and when dry enough, threshed with flail, the seed cleaned, spread thinly on the barn floor to be dried by the air; the straw then to be stowed away for hay.

If grown for hay, it must be left in the swath for half a day, and then put into small cocks, of say fifty pounds each, for a day; the next day, three or four small cocks must be made into one, in a conical form, so as to resist rain; which such cocks will effectually do, as we proved upon one occasion, when a rain occurred which lasted for a week, almost without intermission. Although thus exposed, the hay was not in the least injured, retaining both its color and fragrance, and only requiring about two-thirds of a day's sun to prepare it for being stowed away.

If the ground be well *manured*, thoroughly prepared, by deep ploughing and thorough pulverization with the harrow and roller, after the millet shall have been removed, nothing farther will be required, to prepare it for timothy, than one or two good harrowings, as there is no better cleanser of the soil from weeds than millet.

The millet seed should be sown broadcast, lightly harrowed in, and rolled.

**Root Crops.**—If you intend to cultivate a few acres in root crops, for your stock—which you should do—you should make your arrangements so as to get them in by the middle of this month. If you cannot accomplish this duty thus early, the latter part of the month will answer very well. As domestic animals delight and thrive best when their food is alternated, we would recommend that mangel wurtzel, sugar beet, parsnips and carrots, all be cultivated. This will allow of change of diet.

**Manure.**—The manure best adapted to these roots is that which has undergone the process of decomposition, and thereby been broken down in texture, as coarse manure is apt to produce forked, unsightly roots. In this connection, we will remark, that 2, 3 or 400 lbs. of guano, or 10 loads of well rotted stable and barn yard manure, would prove ample for an acre, of all or any of the before named roots, which should be previously mixed with a bushel of plaster, broadcasted and ploughed in. If neither stable and barn yard manure or guano can be had, 10 bushels of bone dust, mixed with 20 bushels of ashes, and left in pile for a few days, will produce a good crop of roots.

**Soil and Preparation.**—The best soil for the growth of roots, of all kinds, is a deep, fertile loamy one. The ground should, after the application of the manure, be deeply and truthfully ploughed; if possible, the subsoil plough should follow the share plough, in order that the roots may have a deep bed to pasture in. The deeper the pulverization goes, the straighter and fairer will the roots be; so also, will the product be the greater. Before drilling in the seed, the land must be reduced to the finest possible tilth, by harrowing, cross harrowing, and rolling; and indeed, the soil would be all the better of cross ploughing, as every time this operation is performed, the air is admitted into the soil, and through atmospheric influence, the mineral bodies therein, are so acted upon as to become disintegrated or let loose, and thereby prepared to be taken up by the plants through the voltaic power of their roots.

Before we enter into any particular directions, we will remark, that every one who cultivates roots, in anywise upon a large scale, should if he has not one already, purchase a *Drilling Machine*, as it will save its price in labor the first season, besides ensuring regularity in the distribution of the seed.

**Mangel Wurtzel—Sugar Beet.**—As the culture of each of these roots is the same, we will treat of them under the same head.

**Preparation of the seed.**—Soak the seed in water for two days, then draw off the water, let the seed drain in a sieve, but *not to dry*; then mix them with twice their bulk of *soot and ashes*, or *ashes and plaster*, so as to separate and render the seed easy of being sown.

**Quantity of seed per acre.**—Three pounds of seed of either kind of beets is about the right quantity per acre.

**Width of furrows or rows.**—The most convenient distance, at which to cultivate the mangel wurtzel

and sugar beet, is from 27 to 30 inches from row to row; the plants when thinned out, should stand 12 inches asunder in the row.

**Modes of drilling.**—We have done a pretty fair day's work in drilling in beet seed from the mouth of a quart bottle, half filled with sand, the other half seed; but as all operations guided by the hand, are more or less irregular, we prefer to use the drilling machine, by which a man may drill in two acres a day with comparative ease to himself. Drilling machines may be had at the cost of only a few dollars, which make the drill drop and cover the seed, and roll the ground also, at one and the same time. These machines are so adjusted, that the operator can regulate the distance of depositing the seed. These are all considerations worthy of moment, as they save time, which is the equivalent of money.

**Depth of Drill.**—The drills, made for the reception of the seed, should be about 1 inch deep. This is easily regulated by the drilling machine, where the seed is thus put in. If a drilling machine is not used, a line must be stretched across the ground, north and south, when the operator marks off a furrow or drill with the edge or corner of a hoe, then proceeds to drop the seed from the mouth of a bottle, or by hand, therein, and covers with a rake, pressing the earth down over the seed, either with the back of his rake or with a small garden roller.

**Culture.**—When the seed come up, sprinkle a mixture made of equal parts of ashes and plaster over them. A bushel of each will go over an acre. When the plants are three or four inches high, if healthy, thin them out, so to leave them 12 inches apart in the row, care being taken to leave the most vigorous plants. Examine the plants remaining in the row, and wherever you find more than one crown to a single plant—and there are occasionally from 2 to 4, pinch off all but one. At this time, work around the plants with the hoe and hand, so as to open the earth to the action of the atmosphere, and relieve the plants from the obtrusion of grass or weeds. In ten days or two weeks from this time, as may be indicated by the condition of the ground, run a one horse cultivator through the middle of the rows, and work near the plants with the hoe and hand. In two weeks more, repeat your working in the same way, and unless the weather should have proved very inauspicious, you may consider your labor upon your beet crop as done.

**Use of the leaves.**—About the middle of August, just at that period when your pastures wither beneath the blighting influence of droughts, and the scorching rays of the sun, and when your milch cows begin to dry up their milk in consequence of the want of succulent food, you may go into your beet patch and gather there as many leaves as will carry them through the residue of the month of August and all September without materially affecting the growth of the roots of either the mangel wurtzel or sugar beet. In stripping the leaves from the beet, those on the crown or heart must be left untouched. In gathering the leaves, the party must press his thumb nail through the beet near its juncture with the body of the root, being careful not to lacerate or tear the skin from the stem of the beet. In this way several tons of beet leaves, say from 3 to 4, may be collected in the course of the season from an acre of beets, and I need scarcely add, that they are excellent food for milch cows, productive of the increase and secretion of milk, besides being highly relished by all other kinds of stock. When the leaves are thus gathered from beets, fresh ones

immediately put out and are ready for being pulled every two weeks.

**Parsnip.**—This is a root that we feel we cannot too highly recommend—its hardness enables it to withstand the severest winters in open field, uncovered, unprotected; its rich and nutritious properties make it one of the best roots to be given to milch cows, either cooked or uncooked, by itself, or as an element of cow slops or mash—horses relish and thrive upon it, while hogs will fatten upon it, and look as saucy as a hog can look. Of its yield, per acre, 500 to 1000 bushels may be assumed as the quantity; in good land, highly manured, well prepared, and as well cultivated, from 6 to 700 bushels per acre may be safely calculated upon.

**Soil adapted to Parsnips.**—It delights most in a deep friable loam, naturally fertile, or made so by bountiful supplies of nutritive manures. If the product of the stable or barn yard be the manure, before being used, it must be broken down by the process of decay—it must be short manure, and rich at that.

**Quality, kinds and quantity of manures.**—If the manure be rotten dung from the stable or barn yard, 10 double horse cart loads, will manure an acre. If marsh mud, it will take 20 double horse cart loads, which it is necessary should have been previously compounded with 25 bushels of lime or 50 bushels of marl, for some weeks, shoveled over two or three times, and mixed with one bushel of plaster. If guano, 2 to 300 lbs. guano, 1 bushel of plaster will answer for an acre; all the above to be ploughed in. If bone dust, 10 bushels of bone dust, and 20 of ashes, must be mixed together, and permitted to remain in pie until the bones become heated, which can be ascertained by the insertion of a stick into the mass. When the bones become heated, they must be broken down with shovels, and have 1 bushel of plaster nicely mixed with the mass. This done, the whole must be sown broadcast, harrowed in, and the ground rolled.

**Preparation of the soil.**—The preparation of the soil must be the same as for mangel wurtzel and sugar beets, deep, thorough and truthful plowing, harrowing and cross harrowing, until the soil is in as fine tilth as land is susceptible of being brought to, and it must be rolled with a heavy roller.

**Quantity of seed per acre.**—From 2 to 3 lbs., according to its freshness, is necessary to seed an acre in parsnips.

**Age of the seed.**—Parsnip seed is the better of being but one year old, as after that age they cannot be depended upon to come up with certainty, as their germinating power after that period, depends much upon the manner in which the seed have been kept.

**Preparation of the seed.**—Before being drilled in, Parsnip seed should be soaked in warm water from 24 to 48 hours, the water must then be drained off, and the seed mixed with equal portions of ashes and plaster, with soot, or with soot and plaster, mixed together, in equal proportions.

**Mode of seeding.**—If you have a drilling machine, drill your seed in, in rows 18 to 20 inches apart. If you have no drilling machine buy one, as it not only drills the seed with greater exactness, but will save its cost in a single season; whereas, if taken care of it will last an age. It makes the drill, deposits the seed, covers them, and finishes the work by rolling the ground over the drill in one operation, all at the same time. If you should have no drill, and determine not to get one, you must stretch a

line across your ground intended for parsnips, north and south; then with a corner of a hoe, trace a drill 1 inch deep; this done, fill a quart bottle half full of sand, fill it nearly full with the prepared seed, shake the bottle well, so as to thoroughly mix the sand and seed together; then go along the drill with the neck of the bottle close to the drill, keep shaking it as you go along, observing at the same time, whether the seed is falling therein. The seed in the drill, cover with a rake, and press the soil down with the back of it.

**Culture.**—When the plants come up and have grown to be two or three inches high, work between the rows with the hoe; among the plants remove all weeds and grass with the hand: at this working, you must thin out the plants, so as to let them stand 4 inches asunder in the rows; after which, give them a dusting with a mixture of equal quantities of ashes and plaster. In about two weeks more, give them another working with the hoe and hand, and repeat it after a lapse of two weeks more, and generally speaking, you may then lay by your parsnip crop. The weather may, however, be such as to render another working necessary, this your own judgment must determine; the great object in growing parsnips, as is the case of all other roots, is, to keep the soil open to the influence of sun, air and moisture, and the plants clean.

#### MODE OF CULTIVATING PARSNIPS IN GUERNSEY.

The following mode of cultivating parsnips in the Island of Guernsey, where Alderney cows and delicious nutty butter abound, may suit those of our readers whose faith has not yet risen to the altitude of the virtues and beauties of drill husbandry.

Our author remarks:

"Although this root is cultivated in almost all the soils of that Island, that is esteemed the best, which consists of a good light loam, the deeper the better. If the leamy soil is not deep, the undersoil at least should be opened, to allow of the free penetration of the roots." a.

"If the land is not perfectly clear from couch grass and other weeds, it is pared with a paring-plough in October, and harrowed to remove the weeds. About the middle of February, the land is prepared for sowing by means of two ploughs. A small plough precedes and opens the furrow to the depth of 4 inches, and is followed by a large plough drawn by 4 or 6 oxen and as many horses, which deepens the furrow to 10 or 14 inches. b. As soon as the clods are capable of being broken, the harrowing commences, and is repeated till the soil is pulverized, and reduced nearly to the state of garden mould. The whole of the processes are intended to loosen the soil to as great a depth as possible." a. b. c. "The seed is sown broadcast, and on a day just so windy as to insure its regular spreading over the surface. The seed is then covered by the harrow. The quantity sown is from 2 to 4 quarts per acre.

"As soon as the plants are sufficiently strong, they are hand weeded and thinned; and this operation must be repeated at least three times during the summer. The distance between the plants is ultimately about 9 inches; and to save a portion of the labor a harrowing is sometimes given between the first and second weedings."

#### NOTES BY THE EDITOR OF THE AMERICAN FARMER.

a. It is good philosophy and common sense, to say, that the deeper the soil be the better, and where a soil may not be deep, that it should be



deepened, to allow of the free penetration of the roots.

3. It will be time enough in our country to commence putting the soil in order to sow parsnip seed, from the middle of *April* till the beginning of *May*. The *trench* plow, which appears to have been used in the Island of Guernsey, can in our country, very advantageously be substituted by the *subsoil* plough, which breaks up and loosens the subsoil without turning up any of it upon the surface. The *surface* plough here, however, should be made to go from 2 to 4 inches deeper than it does in Guernsey; this would give an inverted furrow slice of from 6 to 8 inches, leaving the subsoil plough to break and loosen up an equal number of inches of the earth beneath the line traced by the share plough. Each of these operations could be very readily performed with us, by a team consisting of 2 or 3 good horses, mules or oxen, and done as well as by those ponderous teams mentioned above. The implements of husbandry in England, are, we have always thought, unnecessarily heavy, often requiring as much motive force to simply move them, as ought to be required to propel and do the work they are intended to perform. This turning up of 4 inches surface soil, and 10 of subsoil, making 14 in all, as is done in Guernsey, would be particularly terrifying to some we wot of in these United States, who would positively die of an aromatic, if their ploughman was to go 4 inches deep, and turn up one inch of the "pisen" hard pan, to be meliorated by the sun of the heavens.

"The *Parsnip* is considered by the Guernsey farmers to be the most nutritious root known; superior even to the carrot and the potatoe. When *small* it is given to the animals whole, but when *large* it is sliced longitudinally. *Hogs* prefer this root to all others, and it makes excellent pork. *Horses* are equally fond of the parsnip, although from eating it with too much avidity it sometimes sticks in the throat. But this may easily be prevented by cutting the roots in pieces before they are given."

*Carrots*.—The kind of land, the manuring of the land, the ploughing, harrowing and rolling of it, distance of drills, in a word, all that appertains to the culture of the parsnip, belongs to the carrot, with perhaps these exceptions: we would add to the dusting compost recommended for parsnips, one bushel of salt, that is, we would mix 1 bushel of ashes, 1 bushel of plaster and 1 bushel of salt, and sow over the plants at their first working. The seed of the carrot before being soaked in warm water, should be mixed with an equal quantity of sand, and rubbed between the hands. The quantity of seed to be drilled in per acre, is 2 lbs. For field culture, the *Altringham*, and *White Belgian Carrots*, are the best. In thinning out the *Altringham* carrot plants, they should be left 3 inches apart, the *White Belgian* should be 4 inches asunder, the rows 18 inches apart.

*Lucerne* may be sown any time between the 1st and 15th of this month, quantity of seed per acre, 20 lbs. if broadcasted, 15 if drilled, distance of the drills 9 inches, soil, deep fertile loam, to be highly manured with nutritious manures, deeply ploughed, finely pulverized, lined and ashed, harrowed, again rolled, the seed drilled in, covered and rolled. Culture, the earth between the drills to be kept *clean*, and *open*. The lucerne not to be cut or fed this year.

*Canteleupes*, *Water* and other *Melons* should all be planted as early in this month as possible; no two

kinds should be placed within 3 or 400 yards of each other, in order to prevent deterioration.

*Field Peas* and *field Beans* should be gotten in as early this month as possible; and while planting your *Bean* crop do not omit to plant some of the *Black dwarf*, *Mexican* or *Brazilian Black bean*; for beyond all comparison, it is the most luscious of the whole family of the bean tribe, and is withal, one of the most prolific of the bunch kind. *Soup* when made from them according to the recipe in our 3d volume, page 390, is among the greatest delicacies of the table, approaches nearer to the best prepared turtle soup than any other we have ever tasted, and far, very far, superior in its taste; and nutritive properties to nine tenths of the compound sold under the tempting cognomen, of "*Green Turtle Soup*," a compound by the bye, neither of whose elements ever saw or floated on the deep blue sea.

*Orchards*.—If not already done, the trees in orchards should be treated to a coat of soft Soap, Sulphur and Salt, mixed in the proportion of 1 gallon of soft Soap, 1 lb. Sulphur, and 1 quart of Salt. Where there may be moss on the trees, or the bark is rough, and dead in appearance, the trees should be scraped before the mixture is applied. And if it is a "long time ago" since your orchard was manured, you will greatly improve your trees as well as the fruit which they may bear, by *harrowing* in a moderate quantity of manure composed of 6 parts marsh mud, ditch scrapings, or woods mould, 1 part bone earth, and 1 part ashes. The mass to be well mixed together, and spread under each tree as far as their limbs may extend, or as far you may suppose the roots may reach. The tree to bear fruit, fine and fair, stands just as much in need of food, as does the man who labors from gray morn to the setting Sun. All things that have life require to be fed, to preserve them in vigorous health and usefulness.

*Out houses*.—Have yours been thoroughly cleansed and white washed this spring? If not, have them done so without farther delay; not omitting your cellars: and while your white washer has brush in hand, let him apply it with a skilful and unstinted hand to your garden and lawn fences, as also to those of your lane leading to the road.

*Draining*.—If you have any *wet* fields or marshes on your farm, make arrangements to have them drained at the first convenient season; by draining the first, you will increase their fertility, while by submitting the last to the same operation, you will add so much fertile arable land to your estate, and promote the health of your family.

*Implements and Tools* must always be kept in good order and in place.

*Accumulation of materials for making manure*.—Let this be one of the chief branches of your farm economy. Have every thing which is convertible into manure, in and about your farm, collected and preserved. A general could not successfully carry on a campaign without the munitions of war, neither can a farmer cultivate his estate to advantage without manure, and plenty of it. If you attend to this duty as you ought, you cannot fail to make big crops, and as a necessary consequence, increase in wealth. Let no crop grown by you dwindle down to the little end of nothing.

*Beasts of labor*.—Have an eye to these and see that they are kept in a condition to perform their daily work with ease to themselves and profit and credit to yourself. Twice or thrice a week they should each receive an ounce or two of a mixture com-

prised of equal parts of salt, ashes and oyster shell lime; be watered and fed thrice a day, at regular hours, be comfortably lodged at night, and receive the advantage of a good currying and brushing down, night and morning; and at all times receive the full benefit of the advice of "Uncle Bill" which we have copied from the "*Maine Farmer*," for the special benefit of all who may stand in need of "barn-yard lectures:"

"*Kindness to Animals.*—Uncle Bill, in one of his Barn Yard Lectures, and he is an old coon at that, says: "Keep up my boys, such a social and friendly intercourse with the tenants of your stable, and barn yard, and over your pig styes, that they may be as tame as kittens, and prick up their ears and wag their tails whenever you approach them."

"Animals will not thrive even on apple pie if they must eat their allowance with fear and trembling, expecting every moment to have a horn knocked off, or a pitchfork thrust into their sides by the cross keeper—who, I am clear to say, is sometimes more of a brute than those that have the misfortune to be under him. Cattle feel kindness and are sensible of gentle treatment, as quick as humans. Animals know a kind master quick enough; the well treated cow or young heifer will rub her face against, and the horse lay his head over your shoulder. It is so in some families: the children are kind, well-behaved, or loving to their guardians—while others, when they see the parent lift his hand to scratch his ear, dodge three or four at a time, expecting a blow or box on the ear. Some men can't come within a squirrel's jump of their own animals. Kind treatment renders them easy to manage or to treat in case of sickness, or accidents; when by bad usage they are rendered as wild as deers and as cross and savage as catamounts."

"*Milk cows.*—Make it a point of duty enjoined upon you alike by the claims of humanity and of interest, to have these generous creatures well fed and kindly treated; see that their food and pastures are of a character to enable them to contribute to your dairy in a measure of liberality. Speaking of pastures by the way, makes us a little inquisitive: Have you one? if not, do make up your mind that you are that much deficient in the appliances of your farm, and that you are called upon by a sense of self interest and public spirit, to set the glorious example to your neighbors, of having a pasture for your stock."

"*Broadcast corn.*—Towards the last of this month, manure a two acre lot, near your barn and stable, plough and pulverize it by harrowing and rolling until it is in fine tith, then sow on each acre of it 4 bushels of corn, broadcast, and harrow and roll it in. This will be ready to cut in August, and enable you to feed your working beasts, milk cows, and other stock, until frost comes; it will enable you to house them at night, and add immensely to your manure pile. Broadcast corn grown to be thus fed, should be cut sufficiently long to wilt in the sun before it is given to the horses and other stock. As a merciful man is good to his beast, we shall indulge in the hope, that our advice, in this regard, will not only be received in a gentle spirit, but lead to fruitful results."

"*Tobacco crop.*—Attend to this, as tobacco will be tobacco next year, unless philanthropy shall, *ad interim*, run a tit against its consumption."

"*Sweet potatoes* should be planted early this month. *Jerusalem artichokes* may still be planted to the middle of the month."

## Report of Dr. James Higgins, STATE AGRICULTURAL CHEMIST.

[CONTINUED.]

**MANURES.**—Manures may be defined by whatever will contribute to increase the productiveness of the soil, either by furnishing directly food to plants, which may be absent, or by causing that food, which already may be present, to assume a form capable of being used by them.

However valuable any substance may be in itself, yet it is no manure to a soil that already contains it in sufficient abundance, or has not some other thing present in a form which plants cannot use, and which by the application of the substance used for manure, may be so changed as to yield food for plants.

Thus lime may act as a manure when it is deficient in a soil, by being directly used for the structure of plants, or it may act as a manure in a soil when it exists in sufficient abundance, but not in a condition to set free other things which may there exist, but not in a form capable of being used.

Vegetable matter may be a manure for yielding its carbon and its salts to plants, or it may act by impregnating water with carbonic acid, which thus acquires the property of dissolving the mineral constituents of a soil, and placing them in a fit condition for use.

All manures should be of the finest possible state of division, and mixed either directly, or indirectly most thoroughly with the soil. Every particle of manure should be placed, if possible, in immediate contact with a grain of sand.

**STABLE AND BARN YARD MANURE.**—This being to a great number of agriculturists, the only form in which manures are applied to lands, any suggestions to increase its value cannot be overrated.

Stable and barn yard manure is composed of the excrements of cattle, mixed with that part of the produce of land which is unconsumed by them. It is nothing more than the former produce of the land, modified by its passage through the bodies of animals, or modified by the presence of those things which have, at one time, served the purposes of food. It, therefore, contains *all* of the substances necessary to plants, as well as those furnished by the air, as those which are obtained by the soil. I shall not go into any elaborate description of its several constituents, nor of their properties, but only give directions for preserving it in its greatest possible state of usefulness. In the decomposition or rotting of stable manure, a substance is formed, called ammonia, which is very volatile, that is, it will readily escape into the air at all times, but more especially when the weather is warm. There would seem, to an un instructed mind, no possible way of preventing the loss of this substance, but by making the receptacles of stable manure air-tight; but chemistry shows, by teaching the nature and properties of bodies, that this substance, one of special value in stable manure, can be so changed by the addition of another substance of little cost, and of easy application, as not to escape at any degree of heat to which stable manure is ever subject; this change does not in the least effect the value of the manure. To effect this, nothing more is necessary than a small quantity of gypsum, (plaster of paris,) say from a half gallon to a peck, scattered over the yards or stables twice a week.

When manure is to be applied to sandy soils, in

which the sand is white, sulphate of iron (copperas,) should be preferred. A few pounds beat very finely, are enough for each week.

In this way the value of the manure will be increased one-half or at least one-third, and all disagreeable stench removed from the yards or stables. This stench is produced by innumerable fine particles of ammonia escaping into the air, and affects, sometimes seriously, the health of animals subject to it. In the application thus recommended above, not only is the health of the farmer's stock, but the value of his manure, greatly increased, either consideration being sufficient to pay one hundred times over, the cost of the application of gypsum or of copperas. Either of those substances when applied to privies or any place where animal and vegetable matter is undergoing decomposition, will at once arrest all offensive odors arising from them. So much for saving that part of the manure which escapes through the air. As commonly taken care of, this kind of manure is subject to another great loss, which should likewise be zealously guarded against.

When any body becomes saturated with water, all of of the substances in it are at once dissolved, and if, when in this condition, any additional quantity of water be added, it takes the place of that which previously existed, and forces out, not only the water, but likewise all of the substances which the water held in solution. That part of stable manure which the water dissolves, is most valuable, and when exposed, as it usually is by farmers, nearly all its valuable matter will be carried away, by water falling on the heaps and then running off. So effectually does this deprive all substances of their soluble matter, that druggists use a process identical in principle with it, to obtain the active matter of many drugs and medicines. A quantity of rhubarb, ginger, &c., being first saturated with water is allowed to remain for a short time, an additional quantity of water then being added, the water first present, passes through, taking with it all the strength of the substance acted on, and leaves behind nothing but a worthless inert mass.

A little reflection will show, that the same thing must constantly occur in stable and barn yard manure.

The yards, then, for the accumulation of this kind of manure, should be so arranged as to permit no water to run off from them. If provender be scarce, then scrapings from the woods or ditches should be used to absorb all of the water that falls on them. Should the bottom of the yards be sandy, clay should be used to prevent the water from filtering through the manure. To sum up all in a few words:—*Save gypsum, or copperas finely powdered, over the stable and barn yard manure, and let no water run off from it.*

Any farmer can easily, if he chooses, carry out all of these important directions.

Lime, neither quick, water slacked, nor air slacked, should ever be mixed with this kind of manure. The last can do no good, the other two will do very great injury to it.

The above directions are short, but they have at least the merit of being easily understood and carried out. When this is done, they are efficient to preserve this valuable substance from the slightest loss.

It is a much mooted question at present, as to whether this manure should be ploughed in with the crop or applied to the surface?

There is, and can be no general rule on this subject. To some crops it cannot be applied in the latter manner. The mode of application also depends on the degree of rottenness which the manure has undergone. When it is much decomposed and where its action is desired immediately, as on tobacco or corn, it is best to mix it thoroughly with the soil. Even when not thoroughly rotted, it is best to plough it under for tobacco. Tobacco land may be so manured, as always to retain its capacity for raising "bright tobacco:" such as now produced on virgin soils or "new ground" alone.

One of the most respectable and intelligent planters in this State, by following out directions based on scientific principles, has assured me of the decided advantage experienced, both in regard to the quantity and quality of his crop. This advantage was proven by the growth of the article on land adjoining, and prepared with great care, in conformity with long established usage. When it is not well rotted, it is best to apply it to clover preceding the wheat crop which is to be sown.

I shall be able to publish some very valuable comparative facts on this subject during the present year, which will give much valuable practical information. I can now state, however, with full confidence, that unless this manure be very thoroughly decomposed it should never be ploughed in for wheat, as it will alter the texture of the soil and make it less productive for this crop. Wheat delights in a close compact soil:—stable and barn yard manure not well rotted, will make the soil porous, and thus injure it. For indian corn this objection does not hold good, and where the land intended for corn is stiff, it will derive benefit from this manure being ploughed in with the soil.

Besides affording all the necessary food for plants, the straw, litter, &c., in this manure, during their decay, impregnate rain water with carbonic acid, which renders it a much more powerful solvent of all the minerals in a soil.

A great part of the effects of green crops when used for manure, such as clover, peas, &c., is also due to this cause. Every substance when capable of being rotted, when covering land, not only keeps the land moist by preventing the evaporation of water which falls, but it also furnishes to the water carbonic acid—and enables it to disintegrate and dissolve the particles of soil.

Besides this, clover, or anything else, when it rots, returns to the soil all of the constituents necessary to its own growth, which it had extracted. Upon these three causes, and none other, depend the action of this class of manures, and the efficacy of top-dressing.

To the barn yard, or compost heap, should be added scrapings from the woods, the contents of privies, (one of the most powerful of all manures,) and whatever the experience of farmers may have shown them to be valuable. A small quantity added daily, will in the course of a season, make a very large heap, and more than ten times repay all the cost and labor of collecting it. *Dead animals should never be suffered to lie exposed in the air.* If a common sized horse or ox, when dead, be covered over with earth made moist with oil of vitriol, diluted with ten or twelve times its bulk of water, it will make enough manure to produce at least thirty bushels of wheat. The oil of vitriol will not only arrest the volatile compounds formed from the animal undergoing putrefaction, but also cause them to be formed more quickly. When the de-

composition of the flesh of the animal is complete, the whole heap covering it should be dug down and applied to the land. If the bones be not dissolved, or decomposed, they should be put in some convenient place, to be dealt with as directed under the head of bone dust.

**MARSH MUD**—Is also a valuable manure. That at the heads of creeks and ravines has been used with a general benefit, second only to stable manure. The large marshes on many of the rivers on the Eastern Shore are invaluable, and at the same time exhaustless sources of fertility. I have examined the "mud" from many of them, and have always found it competent to furnish in large quantities, many of the necessary constituents. Many specimens are easily burnt, which affords great facility and saving of labor in its application.

This mud should be dug up and put in heaps, and at any suitable time should be burnt, and the ashes immediately applied to the land. When it will not burn it should be made into a compost with quick, or water slaked lime, and applied to the soil.

This mud is very rich in all of the necessary constituents of soils, as may be seen from the following analysis:

Marsh mud from Chickamacomico river in Dorchester county.

Specimen being dried was composed of:

Vegetable matter,	90.80
Sand,	7.40
Clay and iron as per oxide,	.60
Lime (ox. calc.),	.65
Phosphoric acid,	.15
Magnesia,	.13
Potash and soda,	.12
Sulphuric acid and Chlorine, (a trace.)	

Specimens examined from the marshes of the Transquaken and Blackwater, in Dorchester, from the Nanticoke, and Pocomoke, from the Wicomico and Monk, in Somerset, and from the Choptank, in Caroline county, all proved to be valuable as manures. It exists in very great abundance, particularly in Caroline, Dorchester, Somerset and Worcester counties. On the borders of the rivers, the marsh sometimes presents an unbroken level surface as far as the eye can reach, affording a rich pasture for large herds of cattle. It is composed mainly of vegetable matter, in every stage of decay. Its texture is so very soft and yielding, that in many places a pole may be thrust down to the depth of ten or twelve feet, without meeting with any obstruction, and can be shaken by the weight of a man for many yards around. This is peculiar to the marshes on the fresh water streams. On the heads of the salt water creeks, it is much more firm, having a much less proportion of organic matter, and always a large per centage of soda. This marsh, should never be hauled in its wet state, as a large amount of labor is incurred, without any profit. It should always be burnt when it is susceptible of combustion, and when this is not the case, it should be mixed in compost with water, slaked or quick lime. But the farmer, if he cannot burn, nor cannot mix it with lime, should not fail to use it by itself. When applied alone, it will be found a valuable application to all the soils to which it is contiguous. The only objection to its use in its native state is, that it is liable from the large quantity of organic matter which it contains, to produce *serrel*. This will not happen when the vegetable or organic matter is destroyed by fire, or decomposed by quick or water slaked lime.

The next substance which we shall mention as a manure, is one used from the earliest ages to the present day, with various degrees of success.

Its cost to the farmer, the immense quantity, and the generality of its application, its great value when properly, the loss of labor, time and money, when improperly used, are all strong reasons why its nature, the difference of its different varieties, and the best mode of its application, should be well known.

**LIME**.—Lime, as used in agriculture, is obtained either from limestones, oyster shells, Indian shell banks, or marl. In all of these different substances it exists naturally in the state of carbonate. The limestone subjected in kilns properly prepared, to a degree of heat sufficient to expel the carbonic acid, becomes quick lime, (oxide of calcium,) and is changed in its mechanical condition from a hard compact mass into a very fine powder. On exposure to the atmosphere, it absorbs from it carbonic acid, and returns into the same chemical condition as it existed in the limestone, its physical character remaining the same as when first burnt, that is, it still exists in a finely divided state, fit to be equally distributed over the land. On the addition of water to quick lime, heat is evolved and not a mere mixture, but a chemical union takes place between the water and the lime, and a hydrate of lime is formed—or in common language, it becomes *water slaked*. This compound contains of lime above 76 per cent, while air slaked lime contains but 56 and nearly one-third per cent. The lime obtained from oyster shells is reduced to powder in the same manner as stone lime, and is, in every respect, identical with it, as far as the lime is concerned. It contains, however, another substance—phosphate of lime—i. e., lime associated with phosphoric acid, the same thing which gives bones their peculiar value. This forms from one and a half to two and three quarters per cent in oyster shells. So that in them, we have all the properties of lime, with those of bone dust in that quantity superadded. Oyster shells, also, contain a small quantity of magnesia, but not enough to influence their agricultural value. We obtain lime from oyster shells, purer than from common limestone.

The analyses of the following specimens of lime that had been sold for agricultural purposes, and comprising all of those used on the Eastern Shore, will show their composition:

Lime from North River, commonly called "New York Lime," is composed of

Water,*	17.70 per cent.
Lime as quick lime,	37.30 per cent.
Magnesia,	21.30 "
Sand, clay and iron,	23.80 "

The specimens of lime were taken from the load in the condition in which it is sold; and I may here remark, that all of the specimens were taken from lots which had been sold. The proportions given are by weight, and not by measurement.

*Reading Lime—Pennsylvania.*

Water,*	1.40 per cent.
Sand,	5.80 "
Clay and iron,	10.10 "
Lime, (quick lime,)	59.29 "
Magnesia,	30.30 "

*Schuylkill Lime, No. 1.*

Water,*	12.80 "
Sand,	4.00 "
Lime, (quick lime,)	35.00 "
Magnesia,	40.54 "
Clay and iron,	7.60 "



*Schuylkill Lime, No. 2.*

Sand,	6.50	per cent.
Clay and iron,	5.00	"
Lime,	63.00	"
Magnesia,	26.00	"

*Schuylkill Lime, No. 3.*

Water,*	3.26	per cent.
Sand,	6.50	"
Clay and iron,	5.00	"
Lime,	60.24	"
Magnesia,	25.00	"

*Susquehanna Lime—near Wrightsville.*

All of the specimens unslacked, contained of

Sand,	4.85	per cent.
Iron and clay,	7.16	"
Lime,	73.00	"
Magnesia,	15.00	"

*No. 2.*

Sand,	7.21	"
Iron and clay,	3.32	"
Lime,	68.06	"
Magnesia,	21.40	"

*No. 3.*

Sand,	11.02	per cent.
Iron and clay,	6.14	"
Lime,	71.63	"
Magnesia,	11.20	"

\* Unslacked.

*Baltimore County Lime.*

The average of eight different analyses of the air slacked lime, gave as lime carbonate, i. e., air slacked lime, 81.40 per cent.

*Lime from Indian Shell Banks, No. 1.—A*

Sand,	3.00	per cent.
Clay and iron,	.30	"
Lime as carbonate,	94.10	"
Lime as phosphate, i. e., bone dust,	2.20	"

*Lime from Indian Shell Banks, No. 2.*

Sand,	2.00	per cent.
Lime as carbonate,	95.15	"
Lime as phosphate,	2.20	"
Clay and iron,	.60	"

*Lime from Indian Shell Banks, No. 3.*

Sand,	6.25	per cent.
Clay and iron,	.15	"
Lime as carbonate, i. e., air slaked,	91.20	"
Lime as phosphate, i. e., bone dust,	2.30	"

N. B.—The Nos. 1, 2, 3, affixed to the "Lime from Indian Shell Banks," "Schuylkill Lime," and "Susquehanna Lime," only denote the order in which they were examined.

*North River Lime. R.*

Specimens obtained from Worcester county.

Water,	7.00	per cent.
Sand, clay and iron,	11.90	"
Lime,	56.00	"
Magnesia,	25.00	"

*Piqua Lime,*

Used extensively in the upper part of Cecil county.

Sand, clay and iron,	3.75	per cent.
Lime,	58.00	"
Magnesia,	36.00	"
Water,	1.50	"

*Gas House Lime, No. 1.—Y.*

Water and free sulphur,	9.20	per cent.
Sand,	4.00	"
Clay and iron,	1.00	"

Lime as carbonate,	80.00	per cent.
Lime as sulphate, i. e., gypsum,	3.00	"
Lime as phosphate,	2.00	"

*Gas House Lime, No. 2.—M.*

This specimen has been exposed to rain.

Sand,	6.00	per cent.
Sulphur, (free)	.90	"
Water,	13.00	per cent.
Lime as carbonate,	68.75	"
Lime as sulphate, (gypsum,) 9.30	"	"
Lime as phosphate,	1.90	"

Gas house lime is obtained from oyster shells, and is used to cleanse the carburetted hydrogen, (the gas used for light,) from sulphuretted hydrogen, (that which is easily recognised by its smell, in the neighborhood of the gas house.) This lime always contains a portion of sulphuretted hydrogen, depending on the quantity of sulphur in the coal from which the gas is made.

When exposed to the atmosphere, the sulphuretted hydrogen, (hydro-sulphuric acid,) loses one of its elements, and becomes converted into sulphur. The sulphur thus formed, by further exposure to the air becomes changed into sulphurous acid, and whilst in this state, would rapidly evaporate, but lime being at hand, it unites with it, forming a salt of lime, called sulphite of lime. On more prolonged exposure, the sulphurous acid becomes changed into sulphuric acid, (oil of vitriol,) which unites to the lime, and forms sulphate of lime, (gypsum.)

There not being a sufficient quantity of sulphur present to make enough of sulphuric acid to unite with all of the lime, a part remains as carbonate of lime.

It will be seen from the above short description of the changes going on in gas house lime, that at certain periods we have in it:—1st. Sulphuretted hydrogen;—2nd. Free sulphur;—3rd. Sulphite of lime; and 4th. Sulphate of lime:—at one and the same time. Phosphate of lime is always present, and undergoes no change.

When it has been exposed for some time, we then have in it only gypsum, air slaked lime, and the phosphate of lime. Should this lime be applied when first taken from the gas house, after being used to purify gas made from coal, containing a large proportion of sulphur, its action will be as follows:—whilst the sulphur remains unchanged, the usual effects of lime will be produced; when it becomes converted into sulphurous acid, it will not only counteract the good effects of the lime, but destroy all vegetation; when the sulphurous acid becomes changed into sulphuric acid, gypsum is formed, and we have its effect superadded to air slaked lime. Gypsum, as has been demonstrated by Liebig, is decomposed by contact with ammonia of the atmosphere, one of its elements uniting itself to it, thereby fixing it:—in other words, destroying its volatility. But its use does not stop here:—it also affords sulphur, which is absolutely necessary to the formation of the nutritious part of all substances used as food by men or animals.

That the above will be the effect of gas house lime, under certain conditions, there can be no doubt. It contains sulphuretted hydrogen:—This sulphuretted hydrogen must become converted into sulphur;—this must, and does become converted into sulphuric acid;—but sulphuric acid, and its salts, we have the highest authority for saying, will, "even in very minute quantities, destroy all vegetation."—Christison on Poisons, p. 750. And I am

assured by a gentleman of the highest authority, that the application of from thirty to fifty bushels per acre, destroyed one crop;—and that, after that it acted well.

I have also known plants in a green house destroyed by fumigations of sulphur, sulphurous acid being formed. When sulphuric acid is formed in the gas house lime, as formed it must be, gypsum at the same time comes into existence: and we will have its action and that of air slaked lime manifest, provided the soil to which it is applied be deficient in sulphates and lime.

What quantity of sulphuretted hydrogen, or free sulphur must exist in the gas house lime at the time of its application, sufficient to produce deleterious effects, has not been as yet determined. There is the same poverty of exact knowledge in relation to this, as unfortunately there is in regard to other substances used as manures. The specimens marked No. 2, containing nearly one per cent of free sulphur, on growing wheat, was applied at the rate of about one hundred bushels to the acre, last winter, by a gentleman whose statement can be implicitly relied on, with very good results: not the slightest injury was experienced. We thus have *one fact*, and that is, that gas house lime containing (.50,) equal to nine-tenths of one per cent of sulphur, when used as a top-dressing to wheat in the winter, is beneficial.

The injurious effects which have resulted from its application, and its known properties, admonish us however, when ignorant of its exact composition, *not to apply it to a growing crop, nor to a soil that is to be immediately cultivated*; when containing a large proportion of sulphur, to apply it to a soil abounding in weeds,—which are pests to cultivation,—and to meadows, some time before seeding them, to destroy all grasses likely to injure the hay crop. We can also safely say, that when applied to a soil deficient in sulphates and lime, the combined effects of gypsum and common oyster shell lime, will be experienced. When its composition is unknown, it should be applied to the surface one season before the crop is planted.

The numerous enquiries made of me lately, by letter and otherwise, in relation to gas house lime, must be my apology for dwelling on it so much at length.

From the above analyses, the great difference in the various limes used indiscriminately for agricultural purposes, can be seen at a glance:—some containing forty per cent of magnesia, and some none;—some containing near ten per cent of gypsum, and some none;—some having twice as much lime as others, and no magnesia. If every soil was exactly alike, could it be possible that each of these limes would be equally beneficial? If the oyster shell lime should be the best application, see what a loss would be incurred by the application of Schuylkill lime, No. 1, containing not half as much lime. If on the other hand this lime, (the Schuylkill,) should be the best—as it is for some soils—consider the loss in applying oyster shell lime, and thus withholding from them forty per cent of magnesia.

But when we remember that many soils contain an abundance of magnesia, and some scarcely any, the loss in applying to the first a lime containing more than fifty per cent of what is already present in sufficient abundance, is greatly increased. The same remark is equally true in relation to the soil containing a mere trace of magnesia, when we apply to it lime also containing none. In each case our expense receives no remuneration—our efforts

at improvement are useless—we labor in vain. That many soils have an abundance of magnesia, and some a mere trace, is an unquestionable fact. That the limes used for agricultural purposes, have the same difference in composition, is a truth beyond cavil. Now, how can those limes be economically applied, by one ignorant of their composition, and ignorant of the composition of the soil? How can we arrive at the constituents of each? How can this knowledge, necessary, absolutely necessary, be obtained, but by an analysis, both of the lime which we apply, and of the soil to which it is applied?

When it is remembered that magnesia is as necessary to constitute a good soil, as any other one substance whatever, and that being absent or deficient, it must be supplied, how can its absence or deficiency be known, without a chemical analysis of the soil? And, even when this is ascertained, how can the right lime be applied, without an analysis of it, to see whether or not it contains magnesia? Let a soil, containing an abundance of magnesia, but deficient in lime, be treated with the Schuylkill, Reading, or New York lime. The quantity of lime in these varieties will doubtless increase the crop, and permanently improve the land; but how immeasurably greater would have been the benefit from oyster shell, or Baltimore lime? Many sensible practical men purchase Schuylkill lime, when they would not have our common lime given to them, because they, by experiment, know the value of the one, and the worthlessness of the other, to their soil. Many again, in the same way, have found out the superiority of oyster shell lime to all others. Should not the expense incurred by experiment have been saved to them? This knowledge could have been afforded, and should. The whole aim of the application of manures being the greatest yield in crops, from the smallest outlay of money, it is not enough for a farmer to know that the application of a particular substance does well; he should not be satisfied unless he knows that it is the best for his particular soil which can be used. That different substances, when applied indiscriminately to all soils, must be productive of disappointment and loss, is so apparent that I shall not pursue the subject any farther. In the application of millions of bushels of lime, decidedly differing in their composition, upon soils equally different from each other, with no rule to guide, no law to direct, an hundred times more money is annually lost to the agricultural interests of the State, than the amount of all the appropriations ever made for its benefit.

If the office of Agricultural Chemist had shown nothing but the proper adaptation of particular varieties of lime to particular soils, the State would derive an hundred times more benefit from it, than the cost has been for its maintenance. I will not now say more on this subject. Axioms admit of no demonstration—self-evident truths need no proof.

I have found, and I believe I am the first to notice the fact, that the proportion of phosphate of lime varies with the localities in which oyster shells are found. As we approach the ocean, the phosphate of lime in them increases. I have made many analyses of them for the estimation of phosphoric acid, and find this law to be universal. So that other things being equal, the shells increase in value as they approach the ocean.

Shell banks are another source from which lime is supplied to soils. These shell banks are deposits by the aborigines of the country, and frequently

cover an extent of from 1 to 40 acres, to the depth of from 6 inches, to as many feet. As those who have never seen these social relics of the "Poor Indian," have questioned the mode of their deposition, I will state the reasons for the belief of their Indian origin: 1st. They are always found near the water's edge, on the slope of a hill, with a southern exposure, sheltered from the north-west winds. This is a position which the Indians would naturally select to enjoy their repast on the delicious article of food which the shells contained. 2nd. The bones of many animals, such as deer, bear, and numerous small game, are found intermixed with the shells, not in a state of integrity, but broken, showing that they came there not by the death of the animals in a natural manner, but were brought for the purpose of being consumed as food. 3rd. There are found, also, with these shells, numerous small pebbles, evidently used to break off the edge of the oyster, in order to open them with greater facility. 4th. There are also found with the shells, Indian arrow heads, battle axes, pipes, and various domestic implements, that had been left by the tribes after feasting. Another and most conclusive reason against the opinion that these shell banks are mere oyster beds left exposed by the retreating of the waters is, that the shells are all separated, and no two lying together will fit each other, a large shell overlays one which is very small, and no one seems to be the fellow of its neighbour. These shells, moreover, lie frequently in heaps surrounding a cavity, showing as if a particular family sat together, consumed their food, and threw the shells around them. The use to which the remains of the food of the Aborigines are applied, is a striking proof of the benefits conferred on the human race by civilization. The refuse matter of their feasts is applied to the growth of food by another and a strange nation, who have extinguished their council fires, exterminated their race, and only remember their names amongst the traditions of the past.

From long exposure to atmospheric influence, and other causes, the shells become disintegrated, and readily crumble on free exposure to the air. Again, after the lapse of a considerable period, they become very much disorganised by another process. At first, a little moss forms on the surface of the shells, this takes up enough lime that has been dissolved by the carbonic acid of the atmosphere, to give support to a higher order of vegetation; this vegetation by its decay, furnishes food for a succeeding generation of plants, and by an increased supply of carbonic acid, dissolves more lime to supply another generation. This, in its turn, dying, furnishes increased means for the solution of the shell, until, in many cases, these banks are covered with the most luxuriant vegetation, and support large trees. The layer of matter covering the shells is called "shell mould," and consists of shells in a very comminuted state, and the organic and inorganic remains of the plants to which it owes its formation. A little reflection will at once show, that this mould must prove a most valuable manure, being nothing but the remains, the ashes, so to speak, of plants mixed with a large quantity of oyster shells, in a very minute state of division.

This mould contains of air slaked lime, by the average of fifteen different analyses, 45.6 per cent. being more than half as good as common agricultural lime, and when we also consider the other matters in this mould, the ratio to limestone is much increased. It is almost needless to say, that the lime

in this mould is identical with that in limestones, fresh shells, &c. and will act equally as well. A custom has prevailed to a very injurious extent, of applying the mould together with quantities of large coarse fragments of shells. I cannot too strongly reprobate this mode of using the banks. These large fragments take up much space in the soil that should be filled by other matter, injure its texture, and render the crops grown on it very liable to burn or fire. Though these shells be composed of lime, it is not available but in a very slight degree, to the use of crops. Lime, to be serviceable, must be in the state of very fine powder, and intimately incorporated with the soil. When it exists in shells of any size, it does almost no good by its presence, and, as I have before said, injures the texture of the soil. For all present practical purposes, pebble stones would be equally beneficial.

The best way to use these shell banks, is to have a sieve fixed with a slight inclination. Against this the shells should be thrown, as when persons wish to free sand from gravel. The fine particles which pass through the sieve, should be applied as they are, whilst the coarse shells which do not pass through, should be put into kilns and burnt. In this way no part of these valuable deposits would be lost; all would be saved for agricultural improvement, thereby increasing the quantity of crops, and augmenting the value of land, instead of retarding its improvement, as is the case when coarse shells are applied. The lime from these old shells is equally valuable as that derived from those which are recent. Some of the best crops, and finest land, have been produced solely by the application of shell mould, and lime burnt from shell banks.

**PLANTING OF FRUIT TREES.**—Dr. Darlington, in his excellent work on *Agricultural Botany*, in his observations descriptive of the *Apricot*, has the following remarks, which may be read with profit by many, who rely for supplies of fruit for themselves, and families, upon the generosity of their more provident neighbours:

"It is melancholy to reflect how thoughtless and negligent mankind generally are, with respect to providing fruit for themselves. There are few persons who do not own or occupy sufficient ground, to admit of 3 or 4 choice fruit trees, and a grape vine; such for example, as an *Apricot*, a *Peach*, a *Mayduke Cherry*, a *Catherine Pear*, and a *Catacha Grape*: yet the great majority seem never to think of planting such trees, while they are ready enough to run after the rare fruit, which some provident neighbor may have taken the pains to cultivate. It is high time that such disreputable negligence should cease; and that people should be more attentive to duties, which are enjoined by every consideration of comfort and good taste—nay, even of sheer justice to those around them, who are now annually plundered of their own care and labors."

We have received for the Library of the State Agricultural Society, copies of a pamphlet entitled "the Soil, considered as a separate and distinct department of nature, by Robt. Serrell Wood, Cor. Mem. of the Nat. Institute." Our pages bear testimony of the ability of Mr. W. as a writer, and the results of the investigations which he has made, will no doubt be examined with interest by scientific men.



BALTIMORE, MAY, 1, 1850.

## TERMS OF THE AMERICAN FARMER.

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**TO CORRESPONDENTS.**—We have been compelled to omit a number of communications laid off for this number—together with notices of various new works, and other matters of interest. We had prepared the engravings for two of the essays on Farm Buildings, which were placed in competition for our prize cup, and intended presenting them in this No., but they are unavoidably deferred. One of them is by our venerable friend R. Sinclair, Sr., and the other is signed "Harford," the writer of which stipulated that whether successful or not, his name was not to appear—His production would have done no discredit to himself or to the county he represents.

Among other favors omitted, which will be published in our next, is one from Jno. Glenn, Esq., descriptive of the water ram of Elgar's construction, recently erected on his farm near this city—one from "W" of Howard District—from "P" on the lands of Virginia—"Queen Ann's"—"Rusticus," &c.

**MALARIOUS DISEASES.**—The communication in this month's number, upon "the best means of guarding against Malarious Diseases," from the pen of the venerable Mr. James Gregorie, of Christ Church, South Carolina, is full of deep interest. The theory which it advocates, though not a novel one, is so well sustained by the well established facts arrayed, that its truth, as it appears to us, must force itself upon the conviction of every reflecting reader. We commend its perusal to all, and especially to those living in low tide water and marshy regions. As our correspondent deserves, so do we return him, our sincere thanks, for the truly able and valuable paper he has furnished us.

**THE COW PEA.**—We have several communications on the cow pea in this month's number—A gentleman who has a farm in Baltimore Co. and also a plantation in Louisiana, noticing the communication of Mr. Dodge, called upon us with a sample which he had brought home with him from his Louisiana estate, for use on his own farm, but having since disposed of a portion of the land, he has more of the pea than he requires, and by an advertisement on another page offers the same for sale—He informs us that they were all gathered last year on his own plantation near Vidalia, La., and only thrashed out in Feb. He says that the peas sowed by the planters are mostly made into soup, and boiled with fat pork, for the supper of the negroes.—The black pea, of one of our correspondents, is probably the "Vetch" spoken of by another as of the same nature as the cow pea.

**THE EDITORIAL CONVENTION** assembled in this city on the 15th ult. and adopted sundry resolutions

on the subject of cheap postage, and other matters, particularly interesting to the country press. We were much gratified at the harmony and good feeling manifested by our editorial friends, and have no doubt that these meetings will be attended with salutary effects. We regret our inability to publish the proceedings.

**A GOOD SUGGESTION.**—A correspondent at Farmville, Va., writes us, "that a spirit of improvement begins to take hold of us in this section; particularly with the young farmers,"—and adds:

"If you are anxious to enlarge your circulation, appeal to your patrons—with a little exertion I am satisfied from the little experience I have had in the last three months, each could get you a new subscriber—urge it on them—do not be too timid—you give full pay for a dollar—it is no matter of charity—your subscribers are the debtors, and you have a stronger hold on their feelings than you are aware of."

As there can be no doubt of our anxiety to enlarge our circulation, as well for our own good as for that of the public interest, (which, though it may be supposed vanity in us to say it, we think we are advancing,) we hope all well wishers to our journal will take the hint, and see if they cannot try the experiment recommended by our Farmville friend. The closing remark is gratifying in the extreme—the kindness evinced towards us daily, by our numerous friends, as shown in their deeds as well as words, is well calculated to make a lasting impression on our heart—in most cases too, they are personally unknown to us, and only have that acquaintance which is produced by our intercourse through the pages of the "Farmer."

**THE WEATHER.—THE CROPS.**—The season has been very unfavorable for farm operations—but very little work could be done during the greater portion of last month, and consequently many farmers were prevented from getting in their oats and commencing corn planting till near its close. The Wheat in the western sections of our State and Virginia, has suffered from the severity of the weather, but generally the accounts of the appearance of the crop are more favorable than otherwise. In the southern portion of our State, the peach and apricot buds are, we fear, much injured—In other quarters, where they had not been so forward, we believe they have not been seriously injured.

**MT. AIRY AGRICULTURAL INSTITUTE.**—In acknowledging the reception of the beautiful Goblet, presented to him for his essay on Farm Buildings, Mr. Wilkinson informs us that his College is in a very flourishing condition—and that the prospective increase of the number of pupils is very flattering. We wish all success to the undertaking.

**TARTARIAN OATS.**—We have been favored by Capt. Graham of this city, with a small sample of the Tartarian or black oats, just received by him from England. They are very fine and large, and are represented as being the best variety for poor soils.

**CORRECTION.**—In the recipe published in our last for the cure of Bots and Cholice in horses, in the 6th line, first paragraph, it should have read "most perfect success for cholice"—And in the remarks of "D. H.H." on shell banks, Duplin's Island is represented as being on the north side of the of Nansemond, instead of the "South" side.



## LECTURES BEFORE THE MECHANICS' INSTITUTE.

Among those who favoured the Institute with lectures, during the course just finished in this city, Captain Lynch, of the Navy, on the subject of his Expedition to the Dead Sea, which was listened to with intense interest by the most crowded audience of the season—and Prof. Campbell Morfit of Philadelphia. The subject of the Professor was the "Progress of the Chemical Science," a subject, which, though not of that popular character calculated to attract a large attendance on its delivery, was nevertheless listened to with great delight by a most respectable auditory.—We have seldom enjoyed a richer intellectual treat than on that occasion. Not only the matter, but the manner of the Lecturer, evinced talent and genius of the very highest order, and elicited from his hearers, the most rapturous and repeated applause. In the course of his lecture, he made a passing remark upon the subject of chemistry as applied to Agriculture, in which a merited compliment is paid to Dr. Higgins, the State Chemist, for his admirable Report, which we are now transferring to our pages.—The Professor said:

"The recent and general application of Chemistry to Agriculture is doing wonders to enhance the value of lands. Sir Humphrey Davy did much to show the dependence of its fruitfulness upon the application of Chemical principles. Liebig has written upon the allied relation of these pursuits, and given us a work, which would be a capital guide book for the husbandman, but that it is clothed in terms rather too abstruse for the general cultivator.

"If as Dean Swift has said, he who makes two blades of grass grow, where only one grew before, does more for the benefit of mankind, than all the politicians of the world, what praise must be due to that Science which makes all fruitful, which was before all barren.

"In this State, much to her credit and that of her legislators, an act was passed, some two years ago, authorising the appointment of a State Chemist, for agricultural advancement. The selection for that office was very fortunate, as the incumbent seems to have entered upon his duties *con amore*, and has given in his late report really valuable evidence of his labors and of his ability. It is to be regretted however that a proper estimate was not made of the value of such services as are necessary to a proper fulfilment of the duties of the office. The salary allowed is scarcely more than is usually paid for clerical labor, so that the instructor, whose advice and lessons, if followed, are to fill the granaries of the State, is not allowed enough to supply his own bins."

The following has been handed us by the Professor, with whom we had the pleasure of becoming personally acquainted, on the evening of the Lecture.

*Analysis of the shell of a recently caught Oyster, by C. Morfit.*

Water . . . . .	2.25
Organic matter . . . . .	.90
Carbonate of Lime . . . . .	93.89
Alumina, Magnesia and } Phosphate of Lime }	.70
Matters soluble in water { Chloride of Sodium with traces of Sul- phates of Soda, and of Lime, }	2.20
	99.94

## Analysis of "Gas Lime" by Graham.

The lime from the dry purifier of a gas work, after a few hours' exposure, had the following composition.

Hypsulphite of Lime . . . . .	12.30
Sulphite " . . . . .	14.57
Sulphate " . . . . .	2.80
Carbonate " . . . . .	14.48
Caustic " . . . . .	17.72
Sulphur, uncombined, . . . . .	5.14
Water " . . . . .	32.28
Sand " . . . . .	0.71

100.00

By careful calcination it may be changed into an equal mixture of Sulphate and Carbonate of Lime. Booth remarks, that by roasting or by exposure to air, in thin strata, it becomes an excellent manure; as all the Sulphosalts are thereby transformed into Sulphates. Elsner recommends its use in tanning, for removing the hair from the hides.

## MANGEL WURTZEL.

The following extract from a paper by the abbe Rozier, will show very conclusively the great value of this root as a material in the food of stock. He says:—"In giving these roots to cattle for food, they are first washed and then cut into pieces about the size of a nut. It is always best to accompany them, when given to horned cattle, with clover, or other hay or straw, and if the hay or straw has been previously cut fine, it will be preferable."

"If horses are fed with this root, with a proportion of cut hay or straw, (half of each) they will be fat, vigorous and healthy. If they are worked severely, a little oats or corn may be added. It is thus they are treated in Germany, where this root stands in the stead of meadows or grass lands, and whose excellent horses are well known."

"Hogs, fed upon them raw, after they have been cut up and mixed with milk or other drink, fatten as well upon them as upon boiled potatoes.

"As to the cattle much will depend on the proportion of other fodder, which you allow them. Cows fed twice a day in winter upon eighteen pounds of these roots at each time, together with four pounds of hay or chopped straw, will give as much milk as in summer, and they will be kept in the best possible state."

"Oxen, fed with forty weight of these roots per day, with ten pounds of hay for one month, and after that with fifty weight per day of the roots alone, will be fat enough for sale in two months more."

**NEW IMPLEMENT FOR BARRING, LISTING AND CULTIVATING CORN.**—Messrs. Sinclair, Jr. & Co. of this city, are now manufacturing an implement for the above purpose, which promises to supersede the cultivating plow, cultivator, and almost entirely the hoe—a more particular description, and cut of which will appear in our next. They are also constructing an implement for pulverizing the subsoil, the cost of which will not be over \$3, which it is thought will save the expense and labor of a horse and man.

**VALUABLE LANDS.**—We refer the enterprising to the advertisement of Mr. Fye, who is offering for sale the whole or part of a large tract of Land in Charles Co. of this State, on the Potomac river, which if not disposed of by private contract by the 15th of this month, a portion of it will then be sold at public sale. Also to the advertisement of a Farm for lease, near Petersburg, Va.—which we think offers great inducements.

## CHAPPELL'S SALTS.

Eastville, Northampton County, Va. }  
March 22, 1850. }

To the Editor of the American Farmer.

DEAR SIR:—Allow me a small space in your columns to say a few words in reply to Mr. Chappell's strictures on my experiment with his salts, published in the Farmer for February, and to which he replied in your March No. I shall be as brief as possible.

Mr. Chappell has misapprehended my account of the experiment, when he infers that the oats and clover were sown as late as the 25th of April. My language was—"the salts were sowed broadcast on the poor sandy land, on oats and clover, at the rate of two barrels per acre, on the 25th April." I say the salts were sown on the 25th of April. The oats had been sown, as is usual here, about the last of February, and the clover immediately after, and rolled in. The salts were put on as a top dressing as directed by Mr. Chappell himself, and in full quantity. They were applied in the rain, and for some weeks after, there were frequent and heavy falls of water, precisely the condition of things one would think most favorable to their action. Certain it is that a month or so after their application, all that was visible of them on the surface, were a few pieces of charcoal and occasionally a small stone. The improvement in the appearance of the crop—sudden and great—would warrant the inference, also, that the salts had effectually soaked in. Mr. Chappell attributes the starvation of the clover to too late sowing also. In answer to this I have already shown that both oats and clover were got in from 15 to 20 days earlier than he recommends. The clover on a portion of the same lot, sowed at the same time, has not "starved out."

Mr. Chappell further remarks—"should the same piece of land this year, show that the salts were not all abstracted in the crop of last year, and without any additional manure, should yield a good crop of oats, and clover, your correspondent will, I am certain, then acknowledge he has been fully repaid for his outlay." In the event stated, I shall certainly take especial pains, and very great pleasure, in making the "amende;" but I confess my inability to understand how "all the salts could be abstracted by the crop of last year," without yielding crop enough, additional, to compensate for the outlay in manure, unless it be confessed that the manure so applied does not contain fertilizing materials enough to give an increased yield equal to its cost; as by the hypothesis, the whole amount is abstracted in the first crop. I hope, however, Mr. Chappell may be right, and that the whole quantity of salts was not abstracted in the crop of last year. In that event, I may, this year, have a good crop of oats and clover, which may "compensate for the outlay."

Mr. Chappell seems to take it for granted, that the dryness of the season rendered it unfavorable for the action of his salts on corn. What I have said about the state of the weather, when speaking of the oats and corn, will apply here. We had a wet spring and summer; the month of June only being dry with us. There was an abundance of water to dissolve the salts thoroughly.

Mr. Chappell appears to think the experiment not a fair one, because on too small a scale. He is mistaken in supposing I only tried it on half an acre, as reference to my report will show. I purchased three barrels of the salts, and used the whole in the experiment. It strikes me as competent to

infer the value of an article by using three barrels as using any greater quantity; the benefit derived would be proportionably the same, provided the same quantity was applied per acre. It would prove a losing business experimenting with a hundred barrels of manure, at three dollars per barrel, and then regain but \$2 75 of the \$6 50 per acre, so laid out.

But, Mr. Editor, I have no desire to underrate Mr. Chappell's salts. On the contrary, I was disposed to put much confidence in it, as it professes to do what I have long considered practicable, viz.—to supply to the soil in the right proportions all the inorganic materials necessary to produce particular crops. It is possible it may under most circumstances, accomplish what it professes, and I hope it may. I had made what I believed to be a perfectly fair and unprejudiced experiment, and acting upon the conviction that the best way to protect the interests of the brotherhood of farmers, was fairly and candidly to state results of experiments with new fertilizing agents, when accurately made, I furnished you the result of my experiments with Chappell's salts, for publication. I made few remarks, and drew few inferences; this I wished the reader to do for himself. The fairness of the experiment has been impugned, and I have defended it, and I hope I have done so in the perfectly good temper I feel about the matter.

Yours, NORTHAMPTON.

## THE COW PEA.

Topping Castle, Caroline County, Va. }  
April 12th, 1850. }

TO THE EDITOR OF THE AMERICAN FARMER:—

DEAR SIR:—In the American Farmer of this month, I observe a letter from W. Dodge to you, written by request from you, upon the "Renovation of Land with the Cow-pea," in which it appears you requested him to send you a few in a letter. Now, as it appears Mr. Dodge could not supply you with "a few," I have concluded, with pleasure, to send them.

You may rely upon the genuineness of the peas; I obtained a few some years ago from a gentleman who brought them to me from Louisiana, where he obtained them from his brother, a resident there. I might but think it needless to relate the different experiments, in detail, I have made with them. But will simply say, that I received the first, and planted them on the last Saturday in June of that year; it was a dry season, and not many more matured than I planted. While others have learnt something by successful experiments, I have learnt very often by unsuccessful. By planting a few on ground, in tolerable heart, four feet apart, four or six in the check, I have raised seed enough to sow a few acres of land, so poor that I lost my crop, both of vines and seed, and was compelled to plant my little patch again for seed; and when I had made another supply for seed, again lost my seed and vines, by sowing on land too poor to perfect them, especially when aided by extreme drought. But in my patches I have seen, sometimes, when the season favored, the most astonishing growth of vines, the whole ground thickly covered two feet deep, and the branch vines entwining and rising up above the body of the growth, and standing up above two or three feet more.

I sowed some on a poor spot of land, where I intended to make a garden; the land was partly inclosed by a cedar watling along a swamp; along the watling the ground was better, and a little moist,

though a sandy loam; the year was more reasonable than some previous, and I never could imagine such a growth of vines; they ran upon the watling, and I am confident, many of them were more than 30 feet long, beside covering the ground so thickly, you could not see it. Now, from my different experiments, I will say, that I believe, that with a very small quantity of manure, you may, with this pea, obtain the greatest quantity of vegetable matter that could be from any vegetable that I know of. I think, unless planted or sowed early, say in the month of May, perhaps the middle of the month, they will often fail to ripen for good seed, though you may have very fine vines: in consequence of this, I would advise those who wish to raise their seed, to plant a patch early, and work them at first. They will, however, soon so cover the ground that you cannot tell whether they were planted or sown broad cast. I suppose, in the lower counties of Virginia and Maryland, where the soil is sandy, and vegetation earlier than in our middle districts, and where, too, clover will not flourish, nothing could be resorted to equal to the cow or Louisiana pea, for the restoration of their worn out lands.

I will observe again, that I believe I would have sown them on my better lands but for two causes. The first, I did not know how I should ever plow them in: I was certain that no three-horse plow could be drawn through and cover them; I have been thinking that something like a sharp coulter in the beam might cut them, and thereby enable one to turn them under. But of this I was doubtful; and, secondly, I was afraid of getting them set on my best lands. I have observed when they come to perfection, (I mean the pea ripens,) and are plowed in, or fall upon the land, they are very apt to come up on the same ground, for a year or two, when other crops are cultivated. On the garden spot named above, I sowed them only the first year, and last year was the second; the ground has since been in Irish potatoes, and the potatoes have been cultivated, as common, with the plow and handhoe, yet, last year, there were more and finer vines than I have ever seen on any part of it, except near the watling. In fact, the only seed I have left, a part of which I inclose you, I gathered myself from those vines after the potatoe crop matured. I had not thought of running a harrow over the vines to enable me to plow them under. Soon after the peas ripen, the pods are very apt to split, and the peas fall on the ground, often every pea will fall out; yet the yield is so great, and the maturation progressive, thereby affording an opportunity with tolerable diligence to collect a good supply of seed.

Very respectfully, yours, &c.

THOS. B. ANDERSON.

P. S.—I have written in the night, late, and in a hurry, please correct errors, if you think proper to print. Mr. Dodge says his peas were of "a yellowish color, and the only kind he has had." The color of mine, every one of them I received from Louisiana, was black. But since I was cultivating them, I find many of them of a "yellowish color," but the size and form are precisely the same as the black. Whether they are all black in the South, or not, I cannot tell, but suppose it probable they are of both colors there.

T. B. A.

DR. HIGGINS' REPORT.—The portion of the State Chemist's report, contained in the present No. will be found of much value.

*Condition of the Wheat Crop in Cumberland, Virginia;—Pea Culture;—Kettlewell and Davidson's Manures as a substitute for Lime and Guano, &c.—Evil of Spring Grazing.*

CUMBERLAND COUNTY, VA., April 13, 1850.

To the Editor of the American Farmer.

I suppose that almost every one of your contributors feel some doubt and misgivings, about the propriety of furnishing articles for the "Farmer." These, however, should hinder us less, when we consider that a much heavier task devolves upon you—the responsibility of deciding—when furnished—whether they are worthy of publication.

You have requested, that your subscribers should inform you of the condition of crops, particularly of the wheat crop, in the various regions of our wide spread country. You have also asked for information on the subject of the "Pea," as a fallow crop, from some of your Southern subscribers. It is my object, at this time, principally, to respond to these calls. I make no promises, however, that after getting fairly under way, I shall stop at any particular point.

We are nearly all tobacco-makers, in this section, and peculiar circumstances connected with the tobacco-crop, last fall, retarded us, much beyond the usual time, in seeding wheat. The winter has been exceedingly wet and unfavorable, and the spring the most backward, and, I believe, the wettest I have ever known. But few of us are much more than half done sowing oats. I think that none have begun to plant corn. Indeed it would be useless, unless we could see a little more of the sun. Since the first of March, there has been almost a continued series of cloudy weather with a great deal of rain. The forest has received no intelligence of the arrival of spring time. Except in very rich, or in guanoed lands, the wheat has not awaked from its winter sleep, but looks small, feeble, and nearly drowned. The plants, however, are still alive, and whenever blessed with warm, dry and sunny weather, I trust they may spring forth, and make up for lost time. I have long observed, that if wheat can live through the winter months, however promising it may be, its final success depends very much on the weather in May and June. I rejoice to learn, from a writer in the "Farmer," that Maryland has fared better than her sister. I suppose this must have arisen, mainly, from earlier sowing.

As regards the Pea culture, some few of us, excited by accounts from the tide-water country and from North Carolina, have begun to cultivate the Bass or Cow Pea. We have long raised the Indian pea, as a culinary vegetable, and it has been a matter of general observation, that wheat grew favorably after it. I think it likely, that it will soon be anxiously sought after, as a green or fallow crop. I have cultivated it, with this view, on rather a small scale, for several years, and have been so pleased with it, as to make provision for sowing nearly an hundred acres the coming season. I am not fully convinced, however, that its highest benefit, great as this may be, consists in the pabulum afforded, by its luxuriant vines, to the succeeding wheat crop. Were this its only advantage, I should hardly prefer it to the much less troublesome clover fallow. Being denied the use of lime, in this region, and believing that without it, our high lands cannot bear the culture of corn, except in very protracted rotation, and having low ground enough to supply

me with corn, in a three shift system of corn—clover—wheat, I have, for several years, been arranging to cultivate my arable highlands, in wheat and clover, alternately. But feeling assured, that on this plan, my lands would speedily be poisoned with all sorts of nuisances, I have determined, as soon as practicable, after the first crop of clover ripens, to plough it in very deeply, and sow and rake in a crop of peas. The nuisances alluded to, are cockle, darnel, spelt, narrow plantain or ripple-grass, and wild carrots. To these might be added the wild onion. I confess, however, that I am not confident of exterminating this, perhaps the worst of all pests, by the intervention of the pea-crop. My limited experience, however, has satisfied me, that, if not eradicated, it will be greatly retarded in the production of seed, both above and below ground, by the smothering spring crop of clover, and the very smothering summer crop of peas. I am certain, that the seed above ground will be almost entirely prevented, by deep fallowing for peas the last of May or early in June, and the subsequent smothering power of the vines; and I should hope that those below ground would perish, if prevented from producing seed above. I am confident that the other pests may be destroyed, in the manner indicated,—turning them deeply under ground, before their seed get ripe,—if we will only be most particular, when sowing wheat, to use clean seed.

In enumerating the benefits resulting to the land, from the culture of peas, it might be well to consider the probability of its either preventing or delaying that state of the land, designated in this region, "clover sick." I should think that turning under only the first crop of clover, and soon following this, by turning under an abundant mass of pea haulm, would obviate, in a great measure, any evil resulting from incorporating with the soil, matter produced by clover alone. I have a little land which but a few years ago produced clover most luxuriantly, and now, though in good condition, seems to refuse to produce it.

The reading portion of our agriculturists have so long found the doctrine inculcated, that there can be no permanent improvement of land without the use of lime, and feeling that they were effectually debarred from its procurement, by the great cost of transportation, had begun to despair of renovating their lands by the mere use of such putrescent manures and the small quantity of ashes they might be able to provide at home. This despondency may, in some localities, be well founded. But it is very certain, that there are extensive veins of land, formed from the detritus of certain underlying rocks, which largely afford those mineral materials of fertility, which are necessary, and which, when properly treated, do raise the soil to a high grade of improvement. It is cheering to be able to inform you that our community is waking up to a much higher interest in agricultural matters. Large quantities of guano have been brought to us, within the last year or two. To supply our deficiency of lime we are beginning to send for those fertilizers, which are said to contain a large per centage of the salts of lime. Resorting to this plan, I trust we shall be able to turn the putrescent manures of our own raising, to much better account. I design to make a fair experiment of Kettwell and Davidson's "Renovator," on my peas, as preparatory to its action on the succeeding wheat crops, if, with our tardy means of transportation, I can get it from Petersburg in time. Two other gentlemen, in this

immediate neighbourhood, have sent for both "Renovator" and "Tobacco Generator," from the same manufactory. Many others are waiting to see the result. There is a perfect rage for Guano, and if it be capable of being converted into a humus, I fear we Virginians may make one of it, by careless or injudicious application. Indeed, I think it by no means fully settled, that we can derive much good from it, previously to rendering our lands calcareous. It will be well worth using, if it will repay its cost, in the increase of the wheat crop, and establish a good set of clover.

Some accounts have been published of extracting potash freely from feldspar rock; could you recommend some cheap method of disintegrating this kind of rock, you would greatly benefit this region, for the earth, herabouts, seems to be almost entirely underlain with it.\*

The great hindrance to the improvement of land, with us, arises from the miserable habit of grazing our clover and other grasses, while in their infant state, in the spring of the year. We buy clover-seed and plaster, and as soon as a beautiful promise is made of remuneration, from the investment, we find that the cows refuse to eat straw—butter gets scarce, the lambs are feeble—perhaps dying—and the old sheep too—the hogs are very poor—we turn in the milch-cows, on the young clover—then the other poor cattle, who wisely refuse straw—we turn in the sheep—and lastly, perhaps the hogs. The buds of clover are nipped out in the day, faster than they can grow at night—much is rooted up by the hogs—every pound of butter costs \$2—our clover is exterminated—the land is thrown back for years, in improvement, and we complain that we can do nothing with clover and plaster on our lands. There is a remedy for this state of things. Preserve a portion of your clover ungrazed and strictly devote the hay to spring feeding. Never rest until you have prepared a good lot of Silesian Beet, work this well, and preserve the crop for spring feeding. Remember in summer, that you may want turnips in winter and spring, and raise them largely, particularly ruta bagas. Adopt field culture of cabbage, and watch for, and pick from the leaves, eggs and worms, about the middle of August. Graze late in the fall, when it can do no harm, that you may save rich food for spring feeding. But by no means graze clover in spring; feed on meal and chopped straw first, at any cost. With best wishes, yours, CUMBERLAND.

[\* Perhaps some of our correspondents can furnish the desired information—we cannot at present.—*Ed. Amer. Farm.*]

#### ROOT CULTURE IN THE SOUTH—THE COW PEA—CLOD CRUSHER.

BEAUFORT, S. C. 16th April, 1850.

To the Editor of the American Farmer:—

SIR:—I am very fond of gardening, as well as an enthusiastic planter, and my situation is a peculiar one, and very favorable for the cultivation of many plants that do not generally succeed. Being also embarked in the business of making manure largely, for which my situation is very advantageous, I am desirous of cultivating such crops as are most profitable for feeding mules and oxen, which are indispensable attendants on making and applying them. I wish, as soon as the season comes round, to try the carrot, parsnip, and the different varieties of the beet for this purpose on a more extended scale than in a garden. I made a very fine crop of the ruta



both "Rae" and the same to see the pea, and if it was, I fear it was not it by no such good reason. Its cost, establish a

tracting recon- his kind ion, for fully un-

of land, raising indur fore- mine fine are, old in the poor deep over very mi- ming a on of d- ter

haga the past winter, which I fed mostly to my oxen, but I lost 4 fine oxen when I first began on them, which I attributed to their being given them with their tops on, for as soon as I lost them I had the tops carefully cut off, and lost no more, though I continued to feed on them for 2 or 3 months longer. I once exhibited a carrot weighing 6 lbs., and had others that weighed rather more, raised from seed brought from Paris, but I cannot recollect what was the variety, except that it was a white one. I am very glad to see that you are calling the attention of farmers to the value of the cow or field pea as a fertilizer. Although one of the most cheaply cultivated and profitable crops known among us, they are very far from being valued as they ought to be. No plant known among us will furnish so much grain for man and beast, and so much long forage of the best quality on poor lands; and for feeding laboring horses, mules, horses and oxen, are much preferred to corn, and for feeding milch cows, are unsurpassed for the richness and quality of the milk, cream and butter. Many varieties of the field pea are cultivated among us, only one, a brown, is generally known as the cow-pea, and is the one most generally cultivated and for sale. We have also several varieties that when sown during the month of April or first half of May, ripen their fruit during the latter part of July, then die off. A second crop of these is generally raised from the seed gathered from the first crop and sown the latter part of July, ripening during the month of October. A few years since I accidentally got a few seed of what has proved, upon a thorough trial of three years, to be the best variety I have ever heard of. It is said to have come from Philadelphia, where it is called the "shinney." When sown early, and upon good lands, it begins to ripen about the middle of July, and continues bearing crop after crop until the plants are killed by the frost of Autumn. The last summer I gathered from a crop sown on a reclaimed old field of medium quality, nine pickings or crops, and left the tenth, because I was otherwise too much engaged. In another field, on one acre, sown latter part of July, I gathered 1288 lbs. of peas in the pods, while from one quarter acre of the cow pea, sown alongside, and at the same time, I gathered only 82 lbs. This would not prove a good variety for plowing in green for manure, for if it ripens a good crop, the temptation to gather the pods would prove too great, and thus a part of the benefit would be lost to the soil. I could send one bushel of this seed for distribution, if you think that it would prove acceptable to the farmers of your neighborhood. For turning in only, a very small variety, known among us as the Pigeon or Lady Pea, would prove the best, as it is of very luxuriant growth, but will bear but little, if any, fruit, if sown before the beginning of July.

Allow me to recommend to your readers a "Clod Crusher," figured and described in the January No. of the American Agriculturist, for levelling and pulverising very rough, stiff and rooty clay lands, where the harrow could not be used, and for stiff clay lands generally.

With a hearty wish for a circulation of your Journal proportionate to its great usefulness and your untiring zeal, I remain,

Your "Old Subscriber," ROBT. CHISOLM.

[Our correspondent requested us to forward some of the seeds obtained from the Patent Office, the receipt of which was noticed in our last,—the demand, however, has exhausted our small stock, and also a

second partial supply, which we had received on application to the Patent Office—where the stock is now exhausted. We state this to save us the necessity of answering numerous calls for the seeds. Mr. Chisolm will much oblige us by forwarding the bushel of peas which he has so kindly tendered—we will take pleasure in distributing the same to our farmers, who, we can promise him, will be grateful therefor.—Ed. Amer. Farm.]

### THE COW PEA—THE VETCH.

PLEASANT GREEN, BALT. Co., April 20, 1850.

To the Editor of the American Farmer.

In reply to your request for information respecting the cow pea of the South, I beg to state, that the method pursued in Louisiana to restore their worn out cotton lands, is to put it in drill corn about six feet apart, and at the last cultivation put a drill of peas between each row. These cover the whole surface of the ground and run up the stalks; from them a portion of the peas are gathered; the hogs, &c. are then turned in to fatten. The vines (unless such as are saved for fodder) being allowed to lie and rot on the ground, until it is plowed next year for cotton. Where the pea is thus sown, extra room must be left between the cotton rows to allow for luxuriant growth. The Southerners are compelled to let the pea vine remain, not having time at the proper season to turn them under green.

I perfectly agree with Mr. Dodge respecting the value of the cow pea, and purpose sowing several acres of them in May or June, to turn under green for wheat. On the 15th inst. in about two acres of my oats I sowed two bushels of peas, as a test, and if, as asserted, the pea will not take much of a start before the oats come off, it will be a simple and cheap way to improve poor land. I shall also try them along with broadcast corn, to be fed away green.

The pea vines by themselves are excellent for milch cows, given to them fresh cut, and for horses, by allowing them a few hours to dry. The "Vetch" (small black pea) is of the same nature of the cow pea, and is much used in Great Britain, particularly by the Scotch, for turning under green, when the pod is forming—and for feed for stock.

I remain, dear sir, with much respect,

Yours truly, SAM'L. JAS. FLETCHER.

For the American Farmer.

### SINCLAIR & CO'S. GRIST MILL AND RAILWAY HORSE POWER.

Among the very numerous drawbacks to the onward march of agriculture, there is perhaps none more serious, than the wholesale introduction of worthless machines, implements, &c. The very casual tests of Agricultural Fairs, frequently by incompetent persons, with the strong certificates, too easily obtained, spreads broad-cast through the land, many a worthless machine, implement, &c. The honest, unsuspecting son of the soil, soon finds that "all is not gold that glistens;" the machine or implement falls beneath his practical hand, utterly worthless, he falls back on the rude machines, tools, &c., of his forefathers, damning all the Book Farmers agricultural implements, &c. in the land. "What is the remedy?" is not only an interesting, but a most serious question. Bring, Mr. Editor, your very practical mind to bear upon this matter; in a

future No., with your permission, we will make a few suggestions. Now for the mill and horse-power. The mill, run by the two horse-power, will, with ease, grind  $4\frac{1}{2}$  bushels of either corn-meal or chop, per hour. The rainy days of the year, at the most moderate calculation, would furnish ample time to grind not only the meal and chop, but furnish the small hominy, buckwheat, flour, chicken food, &c., for the largest farms. Mr. Maynard, the practical machinist of the firm of Sinclair & Co., has done away with the driving band; not only getting rid of its many vexations, but getting a vast increase of power, by the direct application of the power to the machine to be driven; nothing more than the connection of the shaft of the power to the shaft of the mill, by a single coupling. This gives an even and powerful motion, making two horses fully equal to four in the sweep power.\* We have satisfactorily tried Messrs. Sinclair & Co's Railway power, on all our machinery, with the sweep power, and found two horses, in all instances, more than equal to four pulling the sweep. Twelve square feet is ample for the working of these beautiful pieces of machinery. The mill (which cost \$150, and power \$100,) is a genuine French Burr stone, so simply constructed, that any ordinary farm hand, without assistance, can run it. It not only feeds itself, but by the turn of a small wheel regulates its own feed. The stones are easily adjusted while the mill is in motion.— Few farmers are aware to what extent they are robbed by some country millers. We weighed for a tenant, last summer, some corn for the mill; on its return we again weighed it; while weighing, the tenant remarked,—"the old miller must suspect something,—judging from the bulk of the return, all must be right." The scale brought in a verdict of robbery against the miller, having taken 1-5 instead of the lawful toll, 1-10. "Well," exclaimed the tenant, "if only 1-5 is now gone, I am entirely satisfied:—for the last year I have not been getting over one half. Complain to the miller, you receive a parcel of gibberish in reply, about evaporation, fixed air, fine dust, &c." We expressly guarantee Sinclair & Co's mill and two horse endless chain power, as a sovereign remedy for all the evils that miller's tolls are heir to—low water included.

With the most perfect and entire confidence, backed by the most thorough practical test, we recommend these machines to our brother farmers, knowing, when submitted to the same test, they will accord to us the merit of having written the

WHOLE TRUTH.

Baltimore County, March 25th, 1850.

[\* We are informed that the same arrangement of gearing can be attached to Sinclair & Co's Sweep Powers, which, for large grain growers, and those who work small horses or mules, are preferable to the Rail-way Power, and equally well adapted for milling as thrashing.

We may be permitted to remark, that our correspondent is one of the most respectable farmers of our county, and his testimony is reliable and disinterested.—Ed. Amer. Far.]

#### LIME AND BONE-DUST.

Tes Farm, near Camden, Del. }  
June. 23d, 1850. }

To the Editor of the American Farmer.

THERE seems to be a doubt in the minds of some farmers of our neighborhood, as to lime and bone dust when combined, that the fertilizing

qualities of both become detrimental to each other, and that in applying lime to land, a length of time should intervene before the same land is susceptible of improvement, by applying to it bone dust.

Last fall I used from thirty to forty bushels of lime per acre on a portion of worn-out land that I had recently bought, and now rather fearful of this quantum per acre of lime yielding a crop of corn, as desirous to add bone dust or guano, the former preferred in case a benefit would accrue to the first crop, and the combining and turning under the lime and bone dust formed no new compound unprofitable and different from either. In using guano to corn, how much more is it supposed to take, when applying it broadcast and ploughing it under, than what is commonly used in the hill, to yield the same. By an early notice of this, thou wilt greatly oblige

A SUBSCRIBER.

#### Reply by the Editor of the American Farmer.

1. With regard to the fears entertained by some of the neighbors of our correspondent, that when lime and bone dust is combined, the fertilizing qualities of each become detrimental to the other, we would remark, that we are not aware that these two minerals are ever combined, and applied directly together,—that is, at one and the same time; but, if such were the case, we should not apprehend any very serious injury, so far as the bone dust of commerce is concerned; for the bones, submitted to the operation of grinding, has generally been so well boiled, as to have all their animal properties pretty well extracted, so that there is very little left, that, by decomposition, can be converted into gaseous bodies. Freshly slacked lime, would operate unfriendly to bone dust, if made from fresh bones, that is, from bones which had not been previously deprived, by boiling, of their nitrogenous component parts. To such bones, the operation of freshly slacked lime would be injurious, as the effects of contact would be, to force the decomposition of the cartilaginous matter, and as a consequence, drive off the fertilizing gases; but this disadvantage may be prevented by the admixture of either plaster or pulverised charcoal with the bone-dust.

2. We have no apprehension that the lime applied to land "last fall," could injuriously affect bone-dust which may be applied this spring.

3. If the land "A Subscriber" has bought, and which he limed last fall, be really "worn out," he is wise in concluding that it will require other aid besides the lime, to produce a good crop; this aid, we think, he will find in either bone dust or guano. If he should use bone dust, he should only harrow, not plough it in;—if he should use Guano, we would advise, that the Guano be intimately mixed with half its weight of plaster, and ploughed in to the full depth of the furrow, and that previous to laying it off for corn, the ground be thoroughly harrowed and rolled with a heavy roller.

4. If he should apply bone-dust, and is desirous that the first crop be largely benefitted, it would be well for him to mix two bushels of ashes with each bushel of the bone dust, and leave the mixture in pie until it becomes heated, which he can ascertain by running a stick down into the mass, from day to day. When heated, let him mix a peck of plaster with every two bushels of the compost of bone dust and ashes, when he must spread it broadcast and harrow it in, the ground having been previously ploughed.

5. In the application of Guano to corn in the hill, 400 lbs. would be sufficient. That quantity should be mixed with 8 or 10 times its bulk of wood-mould, and half its weight of plaster, per acre, and as the dropper drops the corn, let him, with one foot, draw a little of the mould of the soil over the mixture before he lets the seed corn fall into the hill. If he manure his land solely with Guano, broadcast for corn, it will require 400 lbs. of Guano per acre, the guano to be mixed intimately with a bushel of plaster, which should be ploughed in. Thus treated, the lime applied last fall, will prove innocuous—inoperative except for good.

**BONE DUST.**—Professor Norton, of Yale College, Connecticut, is furnishing a series of papers for the *Albany Cultivator* on the subject of neglected manures.—In the April No. is one on Bones, from which we make the following extract on a subject which should attract more attention than is now given to it.

"We may now proceed to an account of the changes which take place when this acid is applied to bones, and of the beneficial nature of the compound produced.

Various ways have been recommended for dissolving the bones, and I will mention a few of the most successful. The first step in all cases is to dilute the acid with two or three times its bulk of water. If used of full strength, it chars and blackens but does not dissolve the bones. When they are crushed into small pieces or powdered, one third of their weight of acid is sufficient to dissolve them; if whole and large, less than half will not do it completely.

A very common way of managing the solution, is to put the bones in an old hoghead or other convenient vessel, and then pour half or two-thirds the proper quantity of diluted acid upon them; they should be occasionally stirred, and if not dissolved after a day or two the remainder of the acid may be added.

Another way which I have found very effectual, is to break down the bones and lay them in a heap, on a place where the acid cannot soak away. It should be poured in successive portions on the top of the heap, at intervals of half a day, turning over and mixing thoroughly each time. By both of these methods the bones are finally dissolved, or at least crumbled down to a soft pasty mass, that is mostly soluble in water. The solution is more ready if the bones are slightly powdered, moistened and laid in a heap, to ferment a month before use. Several chemical changes take place while bones are dissolving. When the acid is first added, a bubbling up or effervescence occurs; this is owing to the decomposition of whatever carbonate of lime may be present. The carbonic acid goes off, and the sulphuric acid unites with the lime, forming sulphate of lime or common gypsum, which is as all know an excellent manure for most soils.

The sulphuric acid then attacks the phosphate of lime also, and unites with a portion of its lime, forming sulphate of lime again. The remainder of the lime is still united with all of the phosphoric acid; of course each pound of lime has much more of it than before, thus forming what is called a bi-phosphate or super-phosphate of lime, from its containing a double portion of phosphoric acid. This is much more soluble than the ordinary phosphate.

The acid also acts upon the organic or gelatine of the bones, bringing it into a state more readily soluble, and better fitted to supply the wants of the plants. Thus we have sulphate of lime, super-phosphate of lime, and soluble organic substances; all being manures of great value, and in states easily appropriated to the plant.

The bones when dissolved are sometimes applied simply mixed with water. The water is added till no taste of sourness can be perceived, and the liquid is then distributed by a water cart. It produces in many cases most remarkable effects. In fact, when applied in this way they are more efficacious because they are more finely divided and more evenly distributed. It is however, an inconvenient and expensive method, and hence it is more usual to mix the dissolved bones with charred peat, or ashes, or vegetable mould, or sawdust, in sufficient quantity to dry up the acid and make a compound which can be sown by hand or by a drill machine.

From the composition already given of this manure, it is obvious that it must be one of much value, and the results of its application in practice, fully confirm our theoretical conclusions.

It is found that for many crops, from two to four bushels of dissolved bones produce an effect equal to 16 to 20 bushels of bone dust, which latter has already been described as one of the most powerful manures used. It is a cheap application also; two bushels of bones would certainly not be worth more than 50 cents, and would weigh from 100 to 120 lbs. 50 lbs. of acid to dissolve them would cost \$1.50, making a total expense at \$2. This, with half the usual quantity of ordinary manure, is found quite enough for an acre, and thus appears to be far cheaper than anything else that could be used with like effect.

Bones enough to fertilize several acres in this way could be collected in the course of a year on every farm, and their use cannot be too strongly recommended. The trouble of preparation is little, save in imagination, and few who once make trial in the way here prescribed, will meet with disappointment. The mixture of dissolved bones and peat or ashes mentioned above, is to be applied either broadcast or sown in drills. This latter method is best in many cases, because it brings the manure in a position more directly and easily accessible to the roots. It should be sown in the bottom of a drill, then a light furrow over, and the seed above, so as not to come in immediate contact with the mixture. This is for turnips and that class of crops. For wheat and grain it is best sown broadcast or by a machine.

Machines which sow the manure of this kind, and the seed at the same time, are used in England and would be valuable here. JOHN P. NORTON.

**VALUE OF BONE DUST.**—In speaking of the value of bone dust as a manure, Professor Gray says, that "one bushel to a load of yard manure increases its value as determined by experiment, one half."

He estimates that it is "eight times as valuable as cow dung, and the quantity of salts is sixty-six times that contained in an equal quantity of that substance."

*Notes by the Editor of the American Farmer.*

The price of bone-dust in Baltimore is 50a55 cts. per bushel.

That dissolved bones would have a more powerful effect upon the first crop we are ready and free to admit; but for all the purposes of permanent improvement of soil, we are as free to say, that the best way

of applying bones, is to mix them with double the quantity of ashes; to permit them to remain thus mixed until they become heated, when they should be worked over, sown broadcast and harrowed in; and we believe, also, that the admixture of plaster with them in the proportion of one fourth their weight, would be a decided improvement, inasmuch as any nitrogenous matters they may contain, would be thereby economized.

#### ENQUIRIES AS TO BURNING WOOD FOR ASHES,—APPLICATION OF BONES AND ASHES,—BURNING CLAYS, &c.

Green County, Va., 1850.

DEAR SIR:—Where wood is abundant, and one's situation prevents them from using other means of improvement to their lands, do you think that he would be justified in burning wood for the ashes for agricultural purposes? In each of my fields I have some fifteen or twenty acres of land, in which no improvement has been effected in twenty years, although it has been clovered and plastered, and the first crop of clover, aided by the spreading of straw, has been suffered to fall upon it.

This land is somewhat sandy on the surface, having a stiff red substratum, and it occurred to me that if I could apply to each acre this fall, ten bushels of bone dust and ten bushels of ashes, that it might be made productive. How are ashes burnt, or is there any peculiar way of doing it? Is the burning of clay to be spread on land an exploded humbug, or is it now pursued. If it is still considered useful, will you be so good as to tell us how it is done. Respectfully,

S. F.

*Remarks in Reply, by the Editor of the American Farmer.*

We think it possible, that if our correspondent would turn up two inches of the "stiff red substratum" of his fields, and apply fifty bushels of lime to the acre, that he might find the desired curative. In the "stiff red substratum," we doubt not would be found iron in some form, as also potash; the application of lime and the exposure to atmosphere would neutralize the one, if existing in a noxious form, and render it tributary to the healthful purposes of vegetation, and let loose the other, to act on the sand and form the silicate of potash. Liming, deep ploughing, and thorough pulverization, we doubt not would have an excellent effect upon his fields. If possible so to lime it, it would be best to turn up his stiff clayey substratum, in early winter, in order that it might have the full benefit of a winter's frost; but, at all events, it should be inverted and exposed to the meliorating influence of the sun and air. If lime or marl, is not to be had, ashes, we apprehend, would be the next best thing that he could apply; but we can hardly get our own consent to recommend that our correspondent's forest trees should be cut down to burn for the ashes. Such an act appears to be too wasteful. If it be potash that his land wants—and of that we have no means of judging—we think it would be far cheaper for him, to buy a few hundred pounds of the potash of commerce, and mix with woods-mould. Fifty pounds of potash, dissolved in water, if mixed with 20 loads of wood-mould, and two bushels of salt, would be enough for an acre.

We are not aware of any way of burning wood for ashes, but the ordinary one. By burning the wood in a kiln, there would be less loss than by burning it in the open air, where much of the ashes would be blown away by the wind.

We apprehend that he would find it a tedious operation to procure the necessary quantity of potash for his farm, by burning his wood. If oak, about 2.87 per cent., and white pine about 0.83.

The compost which he speaks of forming, of 12 bushels of bones and 10 bushels of ashes, as the proportion to the acre, would be an excellent one, if he can conveniently procure the ashes. Ten pounds of potash, however, dissolved in water, if mixed with the contemplated 10 bushels of bones, and the same quantity of mould, would answer fully as well.

We have no knowledge of any clay being burnt in this country for agricultural purposes. In England, at one time, it was extensively practised with beneficial results. At the present time, it is but little practised, owing to the difficulty of burning it properly. It should be done with a smouldering fire, pretty much like charcoal is made. The most intelligent writers believe, that the ligneous particles found in the clay, and which, in the process of burning, becomes charred, instead of being converted into ashes, has a very material agency in the good produced by the application of burnt clay, as the most decided benefit has always been observed in cases where the clay used for burning, was taken from a field in grass. We do not look upon the application of burnt clay as an exploded humbug; but believe that the success of its application, is dependent upon the degree of pains-taking with which the process of burning may be conducted.

The following is the plan pursued in burning clay, by Mr. Craig, a very distinguished Scotch farmer:

Make an oblong enclosure, of the dimensions of say 15 by 10 feet, of green turf, raised to the height of 3 or 4 feet. In the inside of this enclosure air-pipes are drawn diagonally, which communicate with holes left at each corner of the interior wall. These pipes are formed of sods put on edge, and the space between so wide only as another sod can easily cover. In each of the four spaces left between the air pipes and the outer-wall, a fire is kindled with wood and dry turf, and then the whole of the inside of the enclosure or kiln, filled with dry turf, which is very soon on fire; and on the top of that, when well kindled, is thrown on the clay, in small quantities at a time, and repeated as often as necessary, which must be regulated by the intensity of the burning. The air pipes are only of use at first, because if the fire burns with tolerable keenness, the sods forming the pipes will soon be reduced to ashes. The pipe on the weather side of the kiln only is left open, the mouths of the other three being stopped up, and not opened except the wind should veer about. As the inside of the enclosure or kiln begins to be filled up with clay, the outer wall must be raised in height, at least 15 inches higher than the top of the clay, for the purpose of keeping the wind from acting on the fire. When the fire burns through the outer-wall, which it often does, and particularly when the top is overladen with clay, the breach must be stopped up immediately, which can only be effectually done by building another sod wall from the foundation opposite to it, and the sods that formed that part of the first wall are soon reduced to ashes. The wall can be raised as high as may be convenient to throw on the clay, and the kiln may be increased to any size, by



forming a new wall when the previous one is burnt through."

Again he says:—"No rule can be laid down for regulating the size of the lumps of clay thrown on the kiln, as that must depend on the state of the fire. After a kiln is fairly set going, no coal or wood, or any sort of combustible is necessary, the wet clay burning of itself, and it can only be extinguished by intention or the carelessness of the operator, the vicissitudes of the weather having hardly any effect on the fires, if properly attended to. When the kiln is burning with great keenness, a stranger to the operation may be apt to think that the fire is extinguished:—If, therefore, any person, either through impatience, or too great curiosity, should insist on looking into the interior of the kiln, he will certainly retard, and may, possibly, extinguish the fire;—the chief secret consisting, as before mentioned, in keeping out the external air."

"The above method of burning clay may be considered as an essential service rendered to agriculture; as it shows farmers how to convert, at a moderate expense, the most worthless barren subsoil into excellent manure."

### WORK FOR THE GARDEN.

The time has come when culture in the garden should be attended to—when vigilance and industry should be practiced, to make the husbandman's garden what it ought to be—when the groundwork of the family's future supply of vegetables should be laid.—Therefore, there should be no delay from to-day until to-morrow of what should now be done.

**Cabbage planting.** You should seize the first occasion to manure a bed in your garden and set out such cabbage plants as you may have ready for transplantation, in order that your family may have an early supply of collards and headed cabbages. Bear in mind that the cabbage is a voracious feeder, and be sure to manure your ground with a liberal hand and to let your manure be rich. If you have no plants ready, buy a few hundred, so that your garden may evince that you have had a becoming interest in the comforts of home. The cut-worm frequently destroys in a night a large portion of the plants set out the day previously, thereby imposing a heavy tax upon one's interest and time; to prevent this we have generally prepared plants thus: We made a compost of mould 2 parts, soot 1 part, and flour of sulphur 1 part, reduced it to the consistence of cream by the addition of water: into this we inserted the root and stems of the plants up to the first series of leaves. This preventive means we found to act in a two-fold way—it repelled the worms, and gave a start to the plants. If you set out plants last fall, work them now.

**Canteleupes.** Prepare some hills in your garden on a bed of deep loam, manure them well with a compost of 7 parts well rotted manure and 1 part ashes, and plant from six to eight seed in each hill so as to allow for imperfect seed and the depredations of insects: when the plants come up dust them while the dew is on them for some days with a mixture of equal parts of ashes and plaster.

**Cymbidins.** Plant these as advised for canteleupes, plant them as far as possible from your canteleupes.

**Sweet Potatoes.** Plant a bed of these for family use.

**Corn for Roasting Ears.** The sooner you get in some of the early varieties of corn, the sooner will your table be supplied with roasting ears. By planting Smith's early, the Early white Maudslayi, and the

Early Sugar, you may secure a continuous supply.

**Cauliflowers.** If you have any plants, set them out. If you have no plants, sow some seed for a late crop.

**Sowing Cabbage Seed.** Sow early Cabbage seed for Autumn use; and the late kinds for winter use, as the Savoy, large drumhead, flat dutch and other late sorts.

**Borecole.** Sow the seed of this for winter use and for greens next spring.

**Brussels Sprouts and Jerusalem Kale** seed should be sown now.

**Broccoli.** If you have plants set them out, and sow the seed early in the month for a principal crop.

**Peas.** Plant peas, at intervals of a few days during the month, to succeed your early planted, and secure a continuous supply.

**Beans** both running and bush, should be planted early this month, and again in the middle of it, so as to prolong the supply. Don't omit to plant some fifty hills of the large Lima and Carolina kinds.

**Lettuce.** Set out any plants that you may have,—and sow seed to succeed them.

**Small Sallading** of all kinds, should be sown early this month; the sowings to be repeated every ten days so as to secure continuous and tender supplies of them.

**Radishes.** Sow Radish seed every ten days during the month.

**Carrots, Parsnips, Beets.** For late use drill in your crops of these excellent table roots.

**Spinach.** Sow a bed of these in drills a foot apart.

**Celery.** Prepare a bed and sow celery seed for late crop.

**Asparagus Beds.** Keep these clean of weeds.

**Onions.** Keep your onions clean but don't hill them.

**Turnips.** Sow a bed of Early Dutch turnips for family use.

**Salsify.** Drill in a few rows of salsify for winter use.

**Red Peppers.** Sow the seeds of these, of kinds, for your main crop.

**Tomatoes.** For late tomatoes, sow the seed in the first week of this month.

**Egg Plants.** Seeds of this vegetable should be sown early this month, to ensure a supply when the early crop is exhausted.

**Endive.** For an early crop sow the beginning of this month—towards the latter part of the month, sow again to keep up your supply.

**Okra.** In the first week of this month sow Okra seed.

**Pot Herbs.** The seed of all kinds of pot-herbs should be sown early this month—as also medicinal ones. By the bye, your garden should contain on its borders every description of pot and medicinal herbs, as no garden is complete without them, and it should be a matter of pride for every farmer to have a supply of each.

**Weeds.** Eradicate weeds of all kinds as soon as they show their heads above the ground—by all means, let none go to seed within the enclosure of your garden.

**Fruit.** If your garden fruit is infested with insects, dust fresh ashes or freshly slacked lime over all the limbs, so as to cover all the leaves, and strew a mixture of 7 parts ashes and one part salt around the trunks and for several feet beyond them—wash the bodies from the stalk as far as you can reach with lye, or paint them with a mixture of soft soap, salt and flour of sulphur.

**Strawberry Beds.** Whenever there may be a drought, water your strawberry beds, taking care to hold the nozzle of your watering pot well down to the ground, so as to prevent the washing off of the farina of the flowers of the vines.

Carry out these hints, and you may be proud of your garden, and take pleasure in carrying your visitors therein; for of all else around the homestead and its appointments, there is nothing which more commends a man to his neighbors than a well filled and a well cultivated garden—nothing which so bespeaks the good husband, affectionate father, and kind master; for he who is truly entitled to these appellations, is sure to be careful in providing comforts for those around him.

### BENNETT'S POULTRY BOOK.

[The Poultry Book: A treatise on breeding and general management of Domestic Fowls, with numerous organic descriptions and portraits from life. By JOHN C. BENNETT, M. D. Physician and Surgeon.]

We are indebted to the politeness of the publishers, Messrs. Phillips, Sampson, & Co. of Boston, Massachusetts, for a copy of the above work, through the Messrs. Cushing and Bro. of this city. It is gotten up in a style which reflects great credit upon the artistic skill and liberality of these enterprising gentlemen, who appear to have spared nothing which money could command, whether in the form of paper, type, or embellishments, to make the volume as elegant in execution, as it will prove useful, instructive, and interesting. The frontispiece is embellished with an exquisite representation of the poultry house of Col. Thomas H. Perkins, of Brookline, Massachusetts, while in the body of the work, there are portraits drawn from life, and executed with equal accuracy and beauty, of the following varieties of domestic fowls, viz: the Chittagong rooster and hen, the Shanghai fowl, of varieties, the Cochins China, roosters and hens of varieties, the Great Malay fowl, male and female, the Shakebag fowl, male and female, the common Malay fowl, male and female, the Great Java fowl, of each sex, the Wild Indian game hen, or Great Indian War hen, the Spanish, and Yankee Game fowls, the English Raven fowls, the Dorking fowls of varieties, the Plymouth Rock fowl, the Guelderland fowl, the Spanish fowl of either sex, Blake's Spanish fowl, the Bavarian fowl, the Spangled Polish of three varieties, and both sexes, the Spangled Hamburg fowl, male and female, the silver Pheasant, the Bolton Grays, or Creole fowl, the Frizzled fowl, the Dominique, and the African Bantam; as also of the Wild and Domestic Turkey, of the Guinea fowl, the African, the Indian mountain, the Poland, the Chinese and the Toulouse Goose; of Domestic Ducks, there is the Aylesbury, the Rouen, the Poland, and the Muscovy. Accompanying each portrait, there is a full and interesting description, written by the accomplished editor of this work, illustrative of the origin, properties, and value of each variety of the several birds.

As the title page states, the editor is Dr. J. C. Bennett, of Plymouth, Massachusetts, a gentleman most favorably known as an eminent Physician and Surgeon, who has for years been celebrated as an amateur breeder of domestic fowls, and distinguished for the singular success with which he has managed his poultry yard. His enthusiastic devotion to this branch of the economy of the farm, has been greatly aided by his medical attainments; so much so indeed, that he has reduced it to a science, and

thus has been enabled to succeed where others would have failed. To him the country is indebted for the origin of the "*Plymouth Rock Fowls*," a variety, for it may now be called, though produced by him, a judicious crossing, that has found its way to public favor, by its numerous good qualities.

Besides the descriptions of the several kinds of poultry, to which we have alluded, the work contains a highly instructive essay or chapter upon the origin of domestic fowls, a chapter upon feeding, upon fattening, one upon the selection of stock for pairing, one on breeding, one on laying, the production, weight and value of Eggs, one on incubating, one on caponizing, one descriptive of six celebrated poultry houses, and six chapters on the diseases of poultry, in which the diseases are, together with their causes, treated with physiological acumen, and the proper remedies indicated with a perspicuity and simplicity that can be understood by men and women of all calibres of mind, a thing which too many authors fail to do. It also contains an appendix in which is described the great exhibition of Poultry which was held in Boston in November last, which, by the bye, was projected by Dr. Bennett, the Constitution of the New England Society for the improvement of the Domestic Poultry; a letter from the Committee of Supervision of the Exhibition, together with tables showing the comparative weights of various breeds of fowls in England, and those of the same varieties owned by the editor, in which it is clearly demonstrated, that their weight has been greatly improved by translation to America.

The work before us, must, we believe, become the standard book of the country; it will supply the requisite knowledge wanted by every farmer, and farmer's wife, with respect to the economy and management of the poultry yard, the diseases peculiar to poultry, as well as the necessary remedies to be used, and all else that need be known. Dr. Bennett may well be proud of his volume; it evinces great research, is learned without being pedantic, full of knowledge upon every subject treated of, without tediousness of detail, and written with a spirit and elasticity that cannot fail to carry the reader onward from page to page, with that pleasurable excitement which makes him regret when he comes to the last one. The book has much merit about it; so much merit of the sterling stamp, that the rapid sale of the first, must render a second edition speedily necessary. Influenced by considerations arising out of our knowledge of its usefulness, we commend it to every agriculturist who may feel an interest in rearing domestic poultry.

We learn from the Boston Cultivator, that five thousand copies of the above work were sold by the publishers in a single week; a gratifying testimony this, of the high esteem in which its merit is held by the public.

### PROPER MANURE FOR FLOWERS.

To the Editor of the American Farmer.

Seeing that you constantly devote a portion of your work to flowers, I am induced in consequence to apply to you for information, as to the proper manures for different flowers, particularly the Rose; perhaps some of your Dorchester correspondents could give the necessary directions, as I understand that there they excel in the cultivation of this plant, and that the chief thing used by them is Sheep litter. If you can ascertain how they apply it, how old it must be, how much they would put to a rose 5

6 years old, whether they would mix it with anything else, and how, and when is the best time for doing it, and if they apply it to Cape Myrtles, Pomegranates, or any other plants, you will very much oblige.

A CONSTANT READER.

[We hope that some of our friends at Cambridge will respond to this appeal, which if we mistake not, is from a lady friend. We noticed on a visit to that beautiful village some year or two ago, that great taste was displayed in the rearing of flowers of every description, and we have no doubt that satisfactory answers could be made to the queries of our correspondent.—Ed.]

### FLORAL DEPARTMENT, FOR MAY.

Prepared by John Feast, Florist, 279 Lexington st. for the American Farmer.

This month may be pronounced the busiest in the whole year, in preparing every thing for planting out; and such as were not planted last month, may still be attended to, if the weather is favorable.—The most tender plants, intended to flower through the summer, may be plunged in the borders, viz:—*Hibiscus Rosa Sinensis*, *Erythunia*, *Justicias*, *Fuchsias*, *Lagerstromeria*, *Pomegranates*, *Oleanders*, *Heliotropes*, *Passifloras*, *Manettias*, *Hydrangeas*, and any other of which the collection may consist. All green-house plants may be taken out of the house, and arranged in the most suitable place for the summer months, as they do far better in the open air than being kept confined, which often gives them a sickly appearance. *Camellias* may be kept in the house, but they will thus require extra attention, to keep them in good health, and are liable to the attacks of that troublesome insect, the red spider; but if the house be kept moist, they may be, in some degree, avoided. Syringing every day, is very essential to the health and growth of the *camellia*. The different tender Bulbous flowering roots may be planted out, such as *Gladiolus*, *Ferrarias*, *Tuberose*, *Liliums*, *Dahlias*, and all such as require to be taken up in the fall. If the soil is not suitable, prepare some good, rich, turfy loam, with a little leaf mould, and well rotted manure; they flower best in fresh soil, and grow much stronger.

Flower seeds, if not sown last month, should be now. Plant out all annuals that are large enough, and group them according to fancy, interspersed with *Verbenas*, *Eschaltias*, *Pansies*, &c., showing to the best effect their various tints and colors.

All climbing plants may be put out for covering trellises, arbours, or for shade, whenever wanted, viz: the different running *Roses*, *Wisteria Chinensis*, *Clematis* of sorts, *Basella*, *Ipomoeas*, *Thunbergias*, *Passifloras*, *Manettias*, *Lophospermums*, *Atragenes*, and many others, with *Cobea Scandens*, which is calculated to grow more than most other plants, and give shade in a short time, besides very ornamental. These are all easily managed, requiring little care, and with their tendrils support themselves. Herbaceous plants, if not separated, can still be attended to; and if more plants are wanted, seeds may be sown in the borders, or some convenient place, and when large enough, plant them out; they will stand the winter, and will bloom next year; these are termed Perennial Herbaceous plants, and ought to be more generally introduced; they require but little care, are very showy, and flower most of the summer.

Box edging may yet be planted with success with roots, and it is a very good time to trim or clip the edging, so as to keep in proper form; but it is ob-

jectionable when they are cut flat, as the sun acts on the middle of the row, and changes the colors, often looking dead, which is always the case if cut too close;—the method is to level the top, if irregular, then take off the sides, inclining to the centre at top, leaving the edging nearly in the shape of a cone, rather rounding. In this way it is not so liable to become disordered, and easier kept in good trim. They should never be allowed to grow higher than eight or ten inches.

*Dahlias* may still be increased from cuttings, or divisions of the roots; and for an early bloom, may be planted out the beginning of the month. *Geraniums* will be making their buds, and should be carefully attended to; fumigate when there are any signs of being infested with insects, and syringe often, which invigorates them,—give plenty of air,—these precautions will ensure a fine bloom, if attended to.

*Roses*, intended for planting out, may be safely done, as they will not now be likely to be injured by the cold weather. Young plants may be bedded out for summer months, doing much better than in pots. Cuttings may be potted off, and some sorts may still be propagated that are not far advanced in growth; also seedlings, if large enough, should be put in small pots, and shaded for a few days, after replanting.

Bulbous roots, as *Hyacinths* and *Tulips*, will be in bloom, and should be shaded from the mid-day sun,—they will last much longer in flower.—If they are not fine, I would not recommend the trouble, but only for those of superior quality.

### THE COW-PEA.

Near Bel-Air. April 16, 1850.

To the Editor of the American Farmer.

Sir:—I see in the last No. of the American Farmer, a communication from W. Dodge, in relation to the culture of the cow-pea, (or Mississippi clover,) and in it he states he would send you a few, as requested, but they did not mature.

I sowed a few last summer, which were sent me from Mississippi, but they were sown too late. I wanted to try them among my corn, and sowed them at the last working of that crop, which was a month later than the proper time for this soil and climate. I dropped a few on my potatoe patch the first of June; about one fourth of them came to maturity.

I find all kinds of stock, from a horse to a hog, eat the vines, in a green state, freely. I send you a few of the cow-pea or bean; also a few small peas, sent to me from Mississippi, they are said to make a very fine soup. I expect 5 or 10 bushels of the peas from the South, some time this fall; and if they are the kind you want, I will send you, when I receive them, a small quantity to experiment with.

Very respectfully, yours, J. M. JACOBS.

[Please forward them when received.—Ed.]

### A CALL TO MECHANICS—YOKE FOR OXEN, &c.

Ellendale, Va., April 10, 1850.

To the Editor of the American Farmer:—

In my communication on wire gates, and the use of oxen, appearing in your number for this month, are some typographical errors, too material to pass unnoticed. Do me the favor to correct them in your next.

For "breed the drivers," read *break* the drivers. For "length of furrow slice," read *breadth* of furrow slice. For "frame of gate, 2 by 5 inches," read 2 by 3 inches; and as your cut is probably altered from my design, to adopt it to the former pro-

portions, you have taken from its lightness, which is among its chief recommendations. The catch, too, for holding it back, should turn downwards instead of upwards, as you have represented it.

I have 600 ewes, lambing, in weather that is any thing but genial and spring like. I have only time to ask you whether you could not get some ingenious body, like Page, to contrive a cast-iron yoke for oxen. It might be made concave on the upper side, for lightness sake, with ferules where the bows pass through, to keep them in position;—and would save us much trouble, as well as the animals much suffering, from the misshapen and ungainly burthens of wood, which add to the labors they are designed to lighten. Yours,

W. B. B.

[We hope Mr. Page will turn his ingenious mind to the suggestion of our correspondent.]

After the original drawing of this gate was received, an alteration was suggested by the author, which we suppose was misapprehended by our engraver.—Ed.]

#### REVIEW OF THE TOBACCO & GRAIN MARKETS.

Reported for the American Farmer by J. W. & E. Reynolds.

Nothing new has transpired in relation to the Tobacco markets since our last report, except that the market has been more active and the prices for common qualities of Maryland have declined 25 to 50 cts. per 100 lbs. and the finer qualities are lower than last reported—Middling qualities sell at about the same rates.—We quote Sales common \$3 to \$4; Middling, \$4½ to \$6; good and fine \$6 to \$9—very little of the last named kind sells at over \$7. Grain—White Wheat \$1.10 to \$1.30, Red do \$1 to \$1.10, White Corn 52 cts. to 55 cts. Yellow 53 to 57 cts. Rye 54 to 55 cts. Oats, 34 to 35.

Cotton, since last Steamer's news, has advanced 1-4 a 3-8 c; Peathers, 31 a 33c; Flour, 5.19 a 5.25; Rye flour, \$3.25; Corn Meal, 2-87; Clover seed, \$3.25 a 4.85, by wholesale, no demand; Flaxseed, 1.37 a 1.40; Rice, 3.50 per 100 lbs.; Sugars, N. O. 4.55 a 5.75; Whiskey, in hds. 94c; bbls. 35c; Hops, live, 5 a 5.50; Herrings, 4-75 a \$5; Mackerel, No. 1, \$1.3; No. 2, \$1.0; and No. 3, \$6.35 a 6.50; Shad, trimmed, No. 1, \$7.25 a 7.75. Guano, no change since last report.

The Up. Marlboro Gazette says that "a large portion of the Tobacco plants has been destroyed, and it is almost too late to re-sow the beds, and the belief is that there will be a great scarcity. The prospect for a crop of Tobacco at this time is less favorable than for many years."

#### METEOROLOGICAL TABLE,

From the 20th of March, to the 21st of April.

Kept at Schellman Hall, near Sykesville, Carroll County, Md.

Taken at 6 o'clock, a. m., 3 o'clock, noon, and at 6 o'clock.

		Wind.		Temperature		Remarks.
21	NW	S	32	47	43	Frost, clear.
22	S	W	29	46	43	Cloudy hail
23	NW	W	29	41	35	Snow 2 in.
24	W	W	26	40	33	Clear, cloudy
25	NW	NW	31	35	31	Clear
26	NW	NW	27	36	33	Cloudy, clear
27	NW	NW	30	31	30	'Snow, cloudy, snow
28	NW	W	25	30	33	'Snow 1 in, cloudy,
29	W	SW	27	44	44	Clear, cloudy
30	W	W	36	50	45	Clear
31	W	NW	33	56	45	Cloudy, clear
1	NW	W	38	60	56	Clear
2	W	SE	45	65	58	Cloudy, clear
3	SE	E	41	54	54	Cloudy, rain 1-2 in
4	W	W	50	63	54	Clear
5	W	SE	43	43	40	Clear, rain
6	NW	NW	32	41	40	Clear
7	W	W	48	43	51	Clear
8	S	W	40	51	47	Cloudy, shower
9	W	W	25	46	40	Clear
10	SE	W	33	40	40	Snow 1 in.
11	W	SW	30	56	48	Clear
12	W	W	32	50	48	Clear
13	SW	W	42	45	35	Clear
14	W	W	30	39	30	Clear
15	NW	W	35	49	38	Clear
16	SW	W	36	58	48	Clear
17	SW	W	30	43	30	Cloudy
18	S	S	37	50	44	Clear
19	S	S	37	40	45	Clear
20	SW	SW	40	40	45	Clear

#### FOR SALE.

The subscriber offers at private sale his BEAUTIFUL AND FINE ESTATE, situated on the Potomac River, Charles County, Md., about twenty miles below Alexandria and thirty from Washington City, containing about 731 Acres with a variety of soil from the fine flowery soil for making No. 1 bright yellow tobacco, to the alluvial bottom and all clayey soil for Wheat and Meadow Land, with a large portion of the latter.

The improvements consist of a large commodious and well arranged DWELLING HOUSE, with Pantries, Closets, and fine dry Cellars, and built at a cost of nearly \$6000, located on an eminence, from which the prospect commands a view of nearly the whole Farm, a view of the Potomac and the adjacent country, which is picturesque and beautiful; also, of an Overseer's House, four No. 1 Houses for Servants, Stable and Carriage Houses in the country, a rat proof Meat House, Dairy, Ice House, fire proof Ash House, with all the necessary Fencing Houses &c. The whole buildings are nearly new, built in the best style, and of the best materials.

The Peach and Apple Orchards are extensive, and are of the best budded and grafted kinds, now in full bearing; together with a great variety of Fruits, such as Grapes, Quinces, Currants, Apricots, Plums, Pears, Raspberries, Strawberries, &c. &c. The adjacent waters abound in the finest Fish and Wild Fowl, in their season. It is convenient to Churches of different persuasions, to Grist and Saw Mill, to Post Office and Blacksmith Shop, &c. The facilities of getting its products to market by vessels and steam boats are very great; 1000 bushels of wheat can be shipped in a day. The place is unknown to all who know it to be a healthy one. The whole estate would make three desirable sized Farms, and would be sold altogether, or in three parts, as may be desirable, one of 265, one of about 236, and one of about 200 acres. The place is well Watered, has a superabundance of Wood, and an immense quantity of fine Locust and Ship Timber. Limes in any quantity can be contracted for to be delivered within a half a mile of the dwelling, at eight cents per bushel.

Persons wanting such an estate, or part of it, will please address the subscriber, (post paid),

March 21, 1850

CHARLES A. FYE.

#### PUBLIC SALE.

On Wednesday the 15th day of May next, if fair, if not, the next fair day, will be offered at the Court House door in Port Tobacco, at public sale, to the highest bidder, "without reserve," all of the above described Land, "except 226 acres with the 'buildings,' leaving, according to the Land-papers 45 Acres.

Terms, \$4000 Cash at the time of sale; the balance on the 1st of April, 1847. Possession given on the 1st of January next.—Nearly all of the heavy and fine Ship Timber, nearly all of the fine meadow Land, and most of the fine Locust Timber and fencing stuff is contained in the 455 acres.

Persons are invited to view the premises ere the day of sale. Title made good or no sale.

CHARLES A. FYE.

Near Port Tobacco, Charles County.

m 1

Wanted to purchase 2 first rate cows.

E. WHITMAN, Jr.

GUANO—GUANO.

300 tons Peruvian, 100 do first quality Patagonian, 100 do 3d do do

Regularly inspected, in strong cotton bags, and warranted to be of the very best description. Also, PLASTER, in barrels, City manufacture.

900 bushels SEED BUCKWHEAT, a superior article, from New York. All of which are offered for sale on best terms, by

S. FENBY &amp; BRO.

mr 3t

Cor. Gay and Pratt streets, Baltimore.

#### Guano! Guano!!

THE subscribers offer for sale, in lots, Peruvian GUANO, Government importation; Patagonian do very superior; do do second quality;

Clover Seed, Timothy Seed, Millet Seed, Broomcorn Seed, Ground Plasters, Ground Bones,

Kettellwell's Agricultural Renovator, at the manufacturers' prices. Reynolds' Corn Shellers.

They guarantee the purity of all Guano passing through their hands; and farmers ordering may depend on receiving it at the lowest prices, and every attention being given to its prompt shipment.

W. WHITELOCK &amp; CO.

marl

Corner Gay and High streets.



## To Planters, Farmers, Mill Owners and others.

MURRAY & CLARK,

MILLWRIGHTS AND MACHINISTS,

RESPECTFULLY inform the public that they are now established in Baltimore, Md., and ELIZABETH CITY, N. C., and are prepared to furnish all kinds of MILL-WORK, ROUSTING MACHINES, CRANES and AGRICULTURAL MACHINERY, at the shortest notice, and as cheap as can be got elsewhere, such as Mill Patterns, Mill Castings, Wrought Iron Work, Brass Castings and Agricultural Machinery, such as Horse Powers, for all purposes, Thrashing Machines, Portable Grist Mills for hand or power, Grain Fans, Straw Hay and Fodder Cutters, for hand or power, Corn Crushers, for hand or power, Grist Stones, Picks, Mattocks, Grubbing Hoes, Axes, Wrought Plows, and Plow Castings, also the famous FERRISSE CORN SHELLERS, improved by Murray, that will shell from 300 to 700 barrels of Corn per day, and would refer to the following gentlemen, who have been in use.

*Perquimans Co., N. C.*—Edmund B. Skinner, Ben J. Skinner, Francis Nixon, Col. James Lee, A. C. Toms, H. N. Munn, Thomas Newby, Dr. C. M. Ford, James M. Sumner, Esqs.

*Halifax, N. C.*—Thomas P. Devereux, David Clark, Esqs. *Parsonage Co., N. C.*—William Glover, William H. Davis, Joseph H. Pool, John C. Barnes, George S. Pool, Robert Pendleton, Thomas F. Banks, William Charles, Edmund Perkins, James E. Works, Mark S. Sawyer, Thad. F. Banks, James L. Mullen, Esqs.

*Chowan Co., N. C.*—James C. Johnston, Thomas D. Warren, Aug. Moore, Joshua Skinner, Esqs.

*Serrie Co., N. C.*—John Devereux, Esq.

*Camden Co., N. C.*—W. N. Gregory, Major Gregory, Wm. A. Abbott, Dr. F. N. Mullen, Esqs.

We here take pleasure in giving the following Extract of letter received on the 22nd of September, 1849, from Thomas D. Warren, Esq., Endenton, Chowan Co., N. C.

DEAR SIR:—Your letter asking my opinion as to the performance of the Horse Powers and Thrashers—furnished me by you, was duly received; in answer, I am happy to say that they are very excellent Machines, and deserve all the praise that I can bestow upon them. The principle of the powers is good, and combines great velocity with easy draft—is simple and easily adjusted, which is a great desideratum to a farmer. I have highly pleased with their performance, and give them preference to any I have ever used or seen. As to Fans—I have one from Baltimore, one from New York, and several others, but none are equal to the one sent me by your partner, Mr. Clark. I shall order more from him of the same sort.

With respect, &c., I am yours,

THOS. D. WARREN.

MURRAY & CLARK:—The Fan spoken of above, is one of the same pattern that Mr. Hathaway wrote to us of, as having cleaned one thousand bushels of Wheat within one day.

The following is handed to us by Mr. A. W. Willett, who is now operating with two of our Powers and Thrashers.

DEAR SIR:—In answer to your inquiry about Machines, we would respectfully say to all those that are in want of Machines, that yours is the best we have seen—as it does not break the grain—leaves the straw in good condition—works easy, and thrashes as clean and as fast as any we have seen—and for durability, there is none better made.

Respectfully yours,

G. MYERS, JR.

JOHN CONNELLY, Manager for Capt. McBlair, HIRAM BAUFMAN, MOORE and HOOVER.

MR. A. W. WILLETT: Baltimore, 24 Oct., 1849.

SIR:—In reply to yours of 25th inst., I have much pleasure in stating that the thrashing done for me was highly satisfactory; the performance of your Machine appeared to be perfect—I should I have more thrashing to do and you were able to attend to it, I should employ you to do it.

Yours respectfully,

H. GELSTON.

Baltimore County, Md., Oct. 24., 1849.

Having witnessed the operation of Mr. A. W. Willett's Thrashing Machine, I take pleasure in recommending it to any who may wish to employ or purchase such a Machine. This Machine made by Messrs. Murray & Clark, was employed by me for something less than two days and a half in getting out a crop of oats. In my judgment it performed its work thoroughly, and with sufficient rapidity—almost without friction, and what is unusual, without very little noise. The arrangement of the teeth is such as to prevent their flying out and endangering the men when any of them are broken by the accidental introduction of small stones or other hard substances.

SAM'L McCULLOCH, JR., M. D.

About the Hand Corn Shellers which received the Premium at the late Fair of the Agricultural Society, that will shell

and separate 50 barrels of corn per day, we would refer to the following gentlemen who have them in use. Joseph H. Pool, William Crawford, Joshua Stewart, William Temple, Esqs., of Pasquotank County, N. C. and Nathan Halstead, Esq., of Camden County, N. C. A great number of these Shellers have been sent to Savannah and other places.

About Portable Mills, which we Manufacture for the different purposes of Grinding Wheat, Corn, Rye, Oats, Sagar, Coffee, Salt, Salt Petre, Red Lead, Chromic Ore, Magnesia, Alum Clay, Tartaric Acid, Cream Tartar, all kinds of Spices, Paints, Plaster, Coal and other purposes. The following gentlemen have them in use in the City of Baltimore. Mr. F. S. Cappell, Mr. William Davison, Baltimore Eagle Works, E. Stabler & Co., Messrs. Richstone, Mr. Vanness, Mr. McNeal, Messrs. Powell and Rimby. The largest of this kind of Mills is now in operation by Steam Power at the Junction of the Macon and Georgia Rail Road, Grinding Corn and Wheat.

We also Manufacture superior Bone Mills, and would refer to P. S. Chappell, John Kettwell and Wm. Davison, Esqs.

Having served regular Apprenticeships to the Millwright Business, we feel assured that we can give perfect satisfaction to all who may favor us with their custom, either by day work, or in the performance of contracts, and will warrant all Grist, Saw, and other Mills, &c., propelled by Water, Steam, Wind or other Power, planned and erected by us, to operate well. Mill Work or other Machinery repaired at the shortest notice.

Nearly all the above gentlemen are acquainted with us as Millwrights. All orders thankfully received and promptly attended to.

MURRAY & CLARK, MILLWRIGHTS & MACHINISTS,  
No. 21 York street, near Light st., Baltimore.

Nov. 1,



A. G. MOTT,  
AGRICULTURAL IMPLEMENT  
MANUFACTURER,

No. 38 Esau street, near the Belair Market, Baltimore. Plows, Cultivators, Harrows, Wheat Fans, Straw Cutters, Grain Cradles, and all of the best and most approved Agricultural Implements in use.

AG- Agent for the celebrated N. York Wiley and Empire Plow Castings.

Saw Gummers, a new and very useful article, for sale by E. WHITMAN, Jr.  
Cor. Light & Pratt street, Baltimore.

## Baltimore Fire Insurance Company.

No. 24 South Street, Baltimore.

THIS old established Company (incorporated by the legislature of Maryland, 1807,) continues to INSURE AGAINST LOSS OR DAMAGE BY FIRE, in the city or country, on the various descriptions of property. On Farms, Barns, Granaries, &c.—on Dwelling Houses, Storehouses and Warehouses,—on Merchandise,—on Country Produce,—on Household Furniture,—on Vessels Building, on Vessels in Port, and on Cargoes, &c. &c.

The Board of Directors is composed of the following gentlemen: J. I. COHEN, Jr., President.

William Frick,	David S. Wilson,
Robert A. Taylor,	Wm. F. Worthington,
William G. Harrison,	Jas. A. Sangston,
Samuel T. Thompson,	William Gilmer,
George E. Vickers,	J. Pennington,
F. W. Alricks,	Joseph King, Jr.
S. Owings Hoffman,	

AG- For forms of application, and any other information, apply at the office, No. 24 SOUTH STREET, where all cases are immediately attended to. Insurance can also be effected for any length of time that the applicant may desire.

\*Applications for insurance in the country can be made by letter direct, or through the medium of correspondents of the party, residing in Baltimore. Answers can be promptly given, with all relative information which may be desired. Letters to be addressed to

FRED'K WOODWORTH, Sec'y.

Baltimore, September, 1849.

## BONE-DUST AND POUDETTE ESTABLISHMENT.

On Harris' Creek, at Canton, Baltimore.

THOMAS BAYNES, continues the manufacture of POUDETTE, and is prepared to supply any orders for the same.—The article manufactured by him, will be found probably more valuable than any made in the Eastern cities. His BONE-DUST weighs from 55 to 60 lbs. to the bushel, and is as fine as any article sold in this market. Price of Bone Dust, 55 cents per bushel. Poudrette, \$1.50 per barrel. Persons sending their carts or wagons to the factory, can obtain the Poudrette at 30 cents per bushel.

AG-Any orders left at the factory, or with Mr. S. SANDS, editor of the "Farmer," at the State Agricultural Society's Rooms, will receive immediate attention. Terms, cash.

## AGRICULTURAL ESTABLISHMENT.

The subscriber, manufacturer of  
AGRICULTURAL MACHINES

AND  
IMPLEMENTS,

And dealer in SEEDS, &c., offers for  
sale,

HORSE POWERS, for from 2 to 8  
horses.

THRESHERS, of various sizes and su-  
perior construction.

WHEAT FANS, improved pattern 1850,  
warranted to clean equal to any other  
fan at one operation.

PLOUGHS, of all sizes and various  
patterns.

Parker's original Iron Cylinder CORN SHELLER, known by  
some as the Virginia Sheller; price for horse power, \$27;  
hand power, \$34.

Smith's Patent STRAW CUTTER; price, \$10; one of which  
was exhibited at the last Maryland State Fair, and gave  
very general satisfaction. This cutter can be easily trans-  
ported to any part of the United States, occupying, when  
packed, a space of only 1 foot by 4.

Also, Harrows, Cultivators, Axes, Scythes, Shovels, Spades,  
&c. Orders from any part of the U. States punctually  
attended to.

Manufactory on Water st. Warehouse, No. 36 Main street.  
J. K. PARKER.

Richmond, April 1, 1850.

## HUSSEY'S REAPING MACHINE.

THE subscriber continues to manufacture his REAPING  
MACHINES, in Baltimore. Farmers are reminded to  
forward their orders at as early a day as the appearance of  
their fields will justify, that a proper preparation can be made  
to supply the increased demand—the question with the farmer  
now being not whether a machine will cut his crop, but  
whether he will have a good crop to cut with a machine.

Every improvement will be made this year to render the  
machines durable and perfect.

Price of Reapers, from 100 to 170 dollars. Extra parts will  
be furnished at moderate prices, and may be worth to the far-  
mer ten times their cost.

Price of Mowing Machine, including Reaping, \$125, and  
delivered in Baltimore, at any time from February to July.

Baltimore, March 1, 1850.

OBEDE HUSSEY.

Montgomery, August 4, 1849.

This is to certify that I had one of O. Hussey's Reaping  
machines at work in my field, cutting Timothy Grass a part of  
two days, and cut in fourteen hours with said machine twenty-  
eight acres, with one span of horses; it was done in a  
neater style than it could be done in any other way. The cut-  
ters of said machine were not sharpened during the time of  
cutting said field of grass, and the last acre was cut in as good  
and neat a style as the first. I have also seen said Reaper  
cutting wheat, and I consider it the best machine for cutting  
lodged grain that I have ever seen operate.

apl

DANIEL S. GRAY.

## LIME.

THE subscribers are prepared to furnish Building and Ag-  
ricultural Lime at the depot on the Back Basin, corner  
of Eden and Lancaster-sts., which they will warrant to give  
satisfaction, it being burnt from pure Alum Lime Stone, equal  
to any found in the United States. Orders may be left with  
WILLIAM ROBINSON, No. 15 Hollingsworth-street, near  
Fair.

W. FELL & ROBINSON, City Block.

**Albion Life Insurance Company.**  
LONDON, NEW YORK AND BALTIMORE.

Was Instituted in 1805,

WITH A CAPITAL OF \$5,000,000.

Example of Rates of Insurance for \$100.

Age next birthday.	For one year.	For seven years.	Life without profits.	Life with profits.
25	98	1 03	1 92	2 17
30	1 06	1 13	2 19	2 43
35	1 19	1 25	2 55	2 68
40	1 31	1 44	3 00	3 38

Insurances are undertaken by the Company at all ages, from  
10 to 74, and to any amount not exceeding \$15,000, or less  
than \$500 upon any one life. Persons may reside in the  
Southern States or West Indies all the year by paying extra.

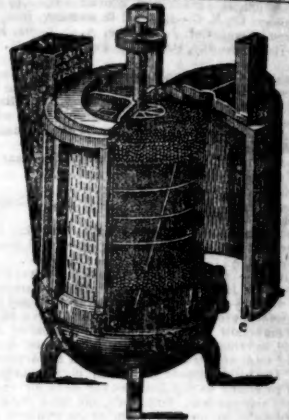
Prospectus with rates, and every information can be had on  
application to the agents.

July 11

GUEST & GILMOR,  
No. 50, S. Gay street, Baltimore.

## PLOUGHS! PLOUGHS!!

The subscriber is manufacturing Ploughs  
of various patterns and of different sizes,  
also Wheat Fans, Cylindrical Straw Cut-  
ters, Corn and Tobacco Cultivators,  
THRESHING MACHINES and HORSE POWERS. The  
latter are used by the following gentlemen, to whom reference  
is made, as to their superior value, viz: Messrs. T. Beard, Th.  
Beard, Dr. Watkins, J. T. Hodges, T. Welch, W. Mackall,  
Ingelhart, A. Sellman, R. Sellman, W. Hopkins, J. C. Weems,  
Wells, Geo. Gale, Dr. Fenwick, A. Franklin, J. C. Weems  
of Anne Arundel county; G. W. Weems, J. T. Barker, E. L.  
Chew, W. Roswell, Y. Howes, of Calvert co; Md. Arnold  
Evans Davis, Baltimore co. for sale of the wooden Plough  
Pennsylvania Grain Cradles. CHAS. H. DEURY,  
Gillingham Alley, entrance from Howard-st., near Post  
mal and store, Hollingsworth-st. corner Fair.



## LEONARD SMITH'S

PATENT VENTILATING SMUT MACHINE.

THIS MACHINE received a Gold Medal from the  
American Institute, New York, at its last Exhibition;  
Silver Medal from the N. Y. State Agricultural Society, at its  
Exhibition at Syracuse in September last, and a Diploma from  
the Maryland State Agricultural Society, at its Exhibition in  
the city of Baltimore, in October last, and is highly approved  
of wherever it has been tried. It can be seen in operation at  
Geo. Page's Wind Mill, in Washington city; Jas. W. Odgers,  
Robertson's Mill, in Georgetown; and at Samuel Conly's  
Mills, at Ellicott's Mills, Md.; at Wm. B. Thimel, Spang  
Garden Mills, Philadelphia—where persons wishing to ex-  
amine it can be satisfied of its utility. Orders for Machines will  
be promptly attended to, if addressed to  
marl-st

LEONARD SMITH, Troy, N. Y.

## IRON WIRE.

500 BUNDLES IRON WIRE, including all numbers,  
suitable for Fencing, for sale by

marl-st

E. L. PARKER & CO.  
Cor. Calvert and Lombard streets.

DUVALL & IGLEHART,  
GROCERS AND COMMISSION MERCHANTS,  
No. 78 LIGHT STREET WHARF.

Invite the attention of their friends, and the public generally,  
to their large and general assortment of GROCERIES, em-  
bracing every article in that line of business, and which they  
will sell upon pleasing and liberal terms, and at the lowest  
prices. Any one in want of any article in their line will find  
it to their advantage to give them a call. They will also pay  
particular attention to the sale of all kinds of produce.  
Baltimore, October 1, 1849.

SHEW & MARKS'  
DAGUERRIAN GALLERY,  
117 Baltimore street.

HIGHEST PREMIUM AWARDED at the late Fair of  
the Maryland Institute, for the best DAGUERRI-  
TYPES exhibited.

Gr-Likenesses accurately taken in any weather, for  
Lockets, Signet Rings, &c., and satisfaction guaranteed in all  
cases. Paintings and Engravings correctly copied. July



## E. WHITMAN'S Agricultural Warehouse

AND  
SEED STORE,

No. 55 Light street, Baltimore.

**W**ILL contain, this season, the largest stock of Improved AGRICULTURAL IMPLEMENTS ever offered for sale in this country, amongst which will be found

100 Whitman's Superior Wrought Iron Railway HORSE POWERS, which received the first premium at the last Fair of the Maryland Agricultural Society.

100 LEVER or SWEEP POWERS, among which will be found all the latest improvements; also, the Eddy or Taplin Power, which is portable, simple and durable, consisting of one wheel only.

200 Whitman's THRESHERS, which received the first premium, in Baltimore, in 1849. The cylinder of this Thresher, being all in one piece of iron, will last 100 YEARS, in constant use. A great improvement has recently been made in the teeth or spikes, which makes it the most perfect machine now in use.

100 other THRESHERS, comprising various kinds and improvements.

7,000 FLOUGHS, consisting of every kind now in use.

500 Premium Cultivators, \$4, \$4½, \$5 and \$6.

500 " Grain Cradles, of approved kinds.

50 " Corn Planters; price, \$20.

100 " Seed Sowers; price, 10.

Osati's celebrated Fan Mills; prices from \$25 to \$40.

Bamforth's " " " \$28, 30, \$32 and \$34.

Strong's, Rice's, Clinton, Boston and other Fans.

Improved Harrows, Straw Cutters, Corn Shellers, Corn and Cob Crushers, Fodder Cutters and Grinders, Ox Yokes, Dirt Scrapers, Churns, Scythes and Snaeths, Wheelbarrows, Root Pullers, Shovels, Spades, Hoes, Forks, Buckets, &c. &c.

Also, a general assortment of

FIELD AND GARDEN SEEDS,

Which are warranted to be fresh and genuine

ap 1 E. WHITMAN, JR.

## MCCORMICK'S IMPROVED REAPING MACHINES.

**1500** of these Machines were sold last year at one shop in Illinois, and this season 3000 are being made at the same place, which is some evidence of their success in the west. We can fill all orders for these machines that are received up to the first of June, on the following terms. Price \$125, and if on a fair trial made this harvest, it will not cut two acres of wheat or any other small grain in one hour, and save at least three-fourths of all the wheat scattered by ordinary cradling—that it is well made of good material, and durable with proper care, and that the raking of the wheat can be well done by a man riding upon the machine, it may be returned and the price paid us for the machine will be refunded.

m. 1.

E. WHITMAN, Jr.

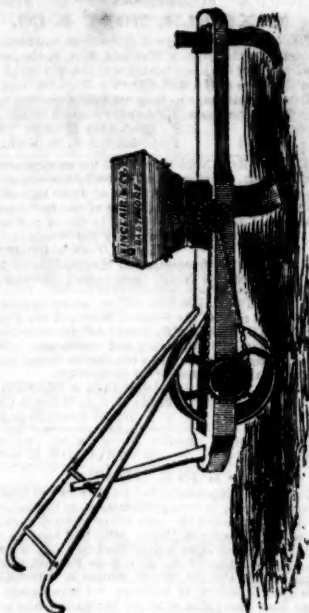
Cor. Light and Pratt street, Baltimore.

**A** valuable machine for Gunning Mill and cross cut saws—a great saving of time and much of the expense of files—for sale by

E. WHITMAN, Jr.

**TREE SOAP.** A new article to prevent the catapillar and insects of every description from injuring trees, shrubbery, &c., just received and for sale by E. WHITMAN, Jr.

## CORN DRILL.



**T**HE above figure represents the original plan of our Corn and Seed Horse Drilling Machine, which has recently undergone improvement. Instead of the coulter in front, we have substituted a wheel for regulating the depth of the drills; also, instead of the broad wheel behind, we now attach two narrow wheels, which run on either side of the beam. By these alterations, the machine is made to plant the seed with more certainty as regards depth, and to run more steady. The machine, including a Corn, Beet and Turnip Cylinder, is sold at \$20. Almost any description of seed may be planted with this machine, by attaching suitable cylinders, and agreeable to directions furnished with the machine.

A hand power machine, of similar construction, is made by the subscribers, and sold at \$10.

ap 1 R. SINCLAIR, JR. & CO.  
62 Light st. Baltimore.

## PLOWS AND CULTIVATING IMPLEMENTS.

R. SINCLAIR, JR. & CO.

**H**AVE manufactured, and have for sale, an extensive assortment of Cultivating and Flushing PLOWS, Corn and Drag HARROWS, CULTIVATORS, ROLLERS, &c.

Also—We particularly recommend to the notice of Planters the Eddison or Gang Plow, made to cut 2, 3, 4 or 5 furrows, and admirably adapted for seeding, cultivation or shallow plowing. The Plows casting two furrows are made with large and small mould boards, and suitable for cultivation or ordinary plowing.

ap 1 R. SINCLAIR, JR. & CO.

62 Light street, Baltimore.

## SEEDS FOR ROOT CROPS.

**J**UST received by the subscribers—  
600 lbs. Mangel Wurzel and White French SUGAR BEET SEED

1 case large oval Sugar Beet

200 lbs. Altringham and White Belgium Carrot Seed

1 cask purple top Ruta Baga

1 do. Dale's Hybrid Turnip

10 bbls. large Yellow Crookneck Canada and Quasha

Pumpkin Seed

10 bbls. Jerusalem Artichoke Roots.

Also,

GARDEN and GRASS SEEDS, of every description.

ap 1 R. SINCLAIR, JR. & CO.  
62 Light street, Baltimore.

## HAMILTON & DIDIER, SUCCESSORS OF MAXFIELD, MOTT & CO.

**NOTICE.**—The undersigned heretofore conducting business under the Firm of Maxfield, Mott & Co., will, after this date, conduct the same business at the old stand 79 F&C st. under the Firm of HAMILTON & DIDIER, and solicit a share of public patronage as they are fully prepared to supply every kind of Agricultural Implement wanted by the farming community.

**T. EDWARD HAMILTON Jr.,**  
m 1  
**FREDERICK B. DIDIER.**

**THE UNDERSIGNED** would call the particular attention of Farmers, Gardeners, and all who are engaged in the culture of the Flower, to their lot of fresh import-d Seed, amongst which are to be found some of the rarest specimens of the Dahlia, Rose, &c., to be found in this or any other city.

Also, fresh imported Garden and Field Seeds, of various kinds.

**HAMILTON & DIDIER.**  
Successors to Maxfield, Mott & Co.  
No. 87 North F&C street, Baltimore, Md.

**NOTICE TO FARMERS.**—The undersigned having the patent right of the State of Maryland for Beach's expanding **CORN SHELLER**, would call the attention of the public to its simplicity, durability and cheapness. They also offer County Rights on the most reasonable terms, and solicit the public to call and examine for themselves.

**HAMILTON & DIDIER.**  
m 1  
successors of MAXFIELD, MOTT & CO.,  
No. 87 North F&C st.

**F**ine assortment of superior Horse Rakes, just received, and for sale by  
**HAMILTON & DIDIER.**

### BONE DUST.

**THE** subscriber is prepared to furnish from 1 to 1000 bushels Ground Bones, at his establishment, at Canton, opposite Brines' Distillery, below the race course, or orders can be left at his residence, corner of Happy Alley and Eastern Avenue. A sample is left at the Agricultural Society's hall, where it will be shown by the editor of the American Farmer, with whom orders can be left. **Col. W. W. W. Bowie**, of Prince George's who has used it, writes as follows: "I was highly pleased with your bone dust; that at 50 cts. per bushel was the best I ever saw; that at 35 cts. was very fair for the price."

**JOSHUA HORNER.**

### FOR SALE.

**20 BUCK LAMBS** of the Cotswold or New Oxfordshire breed, deliverable in Baltimore, after the 1st of August, prox. The subscriber has received the first premium for the best pen of Lambs at each exhibition of the Maryland State Agricultural Society. The original stock was procured from the celebrated flock of Clayton B. Reybold, Esq. of Delaware. Price, \$15 to \$20, according to choice. For further particulars enquire of the Editor of the American Farmer, or

**HENRY C. ROLL,**  
m 1 31  
Westernman's Mills P. O. Balt. Co.

### VALUABLE PIGS.

**I** have a lot of very fine Chester Pigs, now 2 weeks old, which I will dispose of at \$10 per pair, at six weeks old—Also, several of the White Delaware breed, of same age. The Chester Sow was obtained from Aaron Clement, of Philadelphia, at the last Fall's Show, and the White Delaware Sow, now weighing about 700 lbs. (measuring 6 feet from snout to root of tail) was also purchased at the Show. The pigs are got by Mr. Dobbin's Chester boar, obtained from Mr. Wilkinson—purchasers can be assured of the pureness of the breed.

Apply at this office.

### A FARM FOR LEASE.

**F**or Lease, a farm of 450 acres of land in Prince George's Co. Va., 14 miles of Petersburg, 8 of James River. 350 acres cleared and mowed, 90 of which is meadow land. There is upon the Farm 1 large Dwelling House, 6 rooms—2 Barns, Ice House, 3 Kitchens, &c. Also, large Garden, young orchard of Apples, Pears, Peaches, Nectarines, Almonds, Gooseberries, Currants &c., about 100 trees. 100 bushels of Wheat can be seeded upon good land, and the chance for corn is excellent. A hand will be left on the farm to clear, dig manure and keep up fences. The farm will be leased to a Good Farmer for 5 or 7 years, at \$175 per annum, or for 1-5 of the crops made. The Tenant binding himself to improve the land as far as he can, and to attend to the Orchard. The lessor can buy all necessary stock, food, &c., upon the place. The land is divided into 4 shifts, and another shift will be cleared. From 3 to 500 barrels of Corn can be made. Apply to S. Sands, Ed. Farmer, or P. (post paid) Cabin Point, Va.

If taken upon shares, the owner will pay a proportion of all the measures bought; 3 or more hands will be hired, if desired, to the tenant, upon fair terms.

**POUDRETTE FROM THE LODI FACTORY.** A superior fertilizing Powder for Corn, Cabbages, Strawberries, Nectarines, &c., for sale at \$2 single Bbl., or \$1.25 for 2 Bbl. or more.

**WILLIAM CHILD,**  
m 1, 11  
No. 78 South street Bowly's Wharf, Baltimore.

**C**low Pens for sale, in two bushel bags. **WARRANTED** Pure and Sound—Price, \$3 per bag—Apply at the office of the American Farmer.

**100 DOZEN HAND & HORSE RAKES,** for sale by  
**E. WHITMAN, Jr.**

### CHAPPEL'S FERTILIZER.

**O**ne Cox, where the object is to get a quick return for a small outlay, the salts may be used in the fall with a prospect of a large return for the money expended. Mr. E. L. Turner of Kent co. used the Fertilizer at the rate of only 1 lb. per acre in the fall, and got by measurement 7 bushels of corn additional yield for each 100 lbs. Salt used—thus giving him \$3½ for each dollar expended—Used at the rate of 30 lbs. to the acre in the hill would, if the season should prove favorable for the crop produce a fine yield—and where the object is to get immediate return for the money (not having in view the improvement of the soil for after crops) this plan would likely give the largest profit the first year.—One farmer in Calvert co. who used the Salts last year in the fall on his corn crop writes word to his friend in this city that so well satisfied is he with the advantage derived from its use that if he had raised the money he does not intend in future to put in any crop without it. I have sold to many farmers this spring who used it last year with great advantage and profit; some used it in the hills—others broadcast. Let the experiment be made both ways and decide which is best.

The opportunities we have had this spring of seeing many farmers who used the Salts last year on Wheat, Corn, Potatoes, Turnips, Clover Grass; Buckwheat and Garden Vegetables, has gone very far to convince us, that under favorable circumstances for its action it can be used with profit on each of these crops. Prejudice is giving place to experiment, and is the only mode by which the farmer can judge of the value of our Salts or any other Manure.

Price \$3 per barrel containing 300 lbs.

**W**e prepare an article with additional *Polish*, expressly for the Tobacco Crop—price \$4 per barrel containing 300 lbs.

Planters will find it to their advantage to use it. We have no doubt it will greatly increase its growth, and found to be a profitable manure.

**P. S. CHAPPEL,**  
my 1 Office corner Lombard and Hanover Sts. up stairs.

**THE TROTTER STALLION KNICKERBOCKER** will stand during the season on Monday and Tuesday of each week at his owner's farm, in Harford County, between Abington and Belair; and on Thursday and Friday at Townsend, Baltimore County. This horse was sired by Canada Chief and is out of a mare of the Maryland Stock. He is four years old, 15 hands three inches high, of a rich brown color, and possesses remarkable speed for his age.

**W**ANTED AN OVERSEER, fit to take charge of a plantation, where about 20 hands are worked, in Louisa Co. Va. He must be humane, honest and industrious, and is willing to be an Overseer, not the master, and acquainted with the cultivation of Tobacco. Wages \$200 in money, house, servant and cow, with meal and meat. Apply (if by letter, post paid,) to Saml. Sands, office of Farmer—The most undoubted reference must be given.

**U**ANO.—100 tons Government Peruvian, just imported. 100 tons Patagonian, a superior article; 30 tons Chilean. Timothy, Clover and Orchard Grass Seed for sale, in lots to suit purchasers.

**T. W. & L. LEVERING,**  
apl No. 114 Pratt street Wharf.

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[SUPPLEMENT TO THE AMERICAN FARMER.]

# LIST OF PREMIUMS

AND

## RULES AND REGULATIONS

FOR THE

## SECOND CATTLE SHOW

AND

## AGRICULTURAL AND HORTICULTURAL

## EXHIBITION,

TO BE HELD BY THE

MARYLAND STATE AGRICULTURAL SOCIETY,

IN THE CITY OF BALTIMORE, ON WEDNESDAY,  
THURSDAY AND FRIDAY, THE

10th, 11th and 12th of October,

1849.

PRINTED BY SANDS & MILLS,  
Office of the American Farmer.

## To the Farmers of Maryland.

A year ago an appeal was made to you by the officers of the "Maryland State Agricultural Society," for your active cooperation in the means necessary to establish and sustain an institution for the promotion of agriculture, which should be worthy of our State. It is their pleasant duty now gratefully to acknowledge that the appeal was not in vain, and that you have, with a spirit and zeal which forbid failure, come to their aid in every way in which the undertaking could be promoted. To sustain this spirit and to reanimate this zeal, the same body again appeals to you, and they do it with an assured confidence that you will not let a work so fairly begun, languish and die from apathy and neglect. Thus far the most signal success has attended your efforts. A Society has been formed whose list of members, though by no means as large as the worthiness of the subject entitles it to be, embraces a collective force of talent, practical skill and energy, which, directed to any end within the scope of its association, must command success. Under its auspices an Exhibition was held last year, which astonished, by its display, the very people themselves, who had contributed to make it. Through the incentives to emulation held out by it, a number of valuable essays have been given to the world by men who have learned their lesson in the school of experience; and who therefore speak with an authority not to be resisted. Through its provident care for your wants and your convenience, spacious and well furnished rooms have been provided for your resort, where samples of such things, connected with your interest, as may be conspicuous for novelty or their excellence may be found; where you may meet your brother farmers and enjoy an agreeable interchange of thought and courtesy; and where, through an exertion now being made, a library will soon be assembled which will place at your disposal the treasured wisdom of other countries and your own.

CHARLES B. CALVERT, of Prince George's County, *President*.

### VICE PRESIDENTS.

*Baltimore City*—JOHN GLENN,  
*St. Mary's County*—H. G. S. KEY,  
*Charles County*—J. G. CHAPMAN,  
*Prince George's*—HORACE CAPRON,  
*Calvert*—GEORGE WEEMS,  
*Anne Arundel*—WM. C. LYLES,  
*Howard District*—DR. ALLEN THOMAS,  
*Montgomery*—A. BOWIE DAVIS,  
*Frederick*—DAVID W. NAILL,  
*Washington*—WM. DODGE,  
*Alleghany*—DR. SAMUEL P. SMITH,  
*Carroll*—GEORGE PATTERSON,  
*Baltimore*—WILSON M. CAREY,  
*Harford*—RAMSEY MCHENRY,  
*Cecil*—REV. JAS. MCINTYRE,

These are some of the good results which already flow from an enterprise which has only yet had its first impulse. But to continue and enlarge them it needs your untiring and persevering aid. It has been the reproach of the past, that several efforts, analogous to ours, have sprung into a bright existence, and after a short and fitful blaze, have flickered and gone out, and some, more mindful of the miscarriages of days gone by, than the promise of the future, have predicted such an untimely end for ours. Surely they slander us who think so lightly of our energy and our stability of purpose. We know the value of such an institution, and we know that from a small beginning, with fostering care, it may and will grow to be a source of incalculable benefit. Who, than the farmer, is more accustomed to wait upon the future with implicit reliance on the sequence of effect from cause? He commits the seed to the ground and patiently awaits the germ. He tends the growing plant with assiduous pains until he finally reaps in the golden harvest the reward of his faith and his labor. So let it be with us now. We have planted an institution in whose embryo is foreshadowed a maturity of vigorous usefulness. Let us by our names, and those of others whom we may, by our example or our persuasion, induce to join it, swell its roll till it shall include every farmer in the State. Let us by the cheerful payment of our subscription, so enrich its treasury that it shall lack no means to promote the good of agriculture. Let us, in generous emulation, each send something to its Exhibition to stimulate rivalry in good works, and to shew that we are not so blighted with the curse of mediocrity that we cannot be excellent in something. Let us by our attendance at its meetings of business exhibit our interest in its management;—by our advice, assist its councils;—and by our teachings illustrate its transactions. So shall we reap a rich reward for ourselves and our posterity, and elevate still higher a calling, than which, none is more honorable.

*Kent*—WM. S. CONSTABLE,  
*Queen Anne's*—JAS. T. EARLE,  
*Tu'bot*—COL. N. GOLDSBOROUGH,\*  
*Caroline*—JOS. PEARSON,  
*Dorchester*—DR. JOS. E. MUSE,  
*Somerset*—DR. WM. WILLIAMS,  
*Worcester*—JOHN U. DENNIS,  
*D. Columbia*—J. H. BRADLEY,

*Cor. Secretary*, GEO. W. DOBBIN,  
*Rec. Secretary*, SAMUEL SANDS,  
*Treasurer*—GEORGE M. GILL, } *Baltimore*.

*Curators*.—W. W. W. BOWIE, of Prince Geo's  
 N. B. WORTHINGTON, of Anne Arundel; J. CARROLL WALSH, of Harford; Z. BARNUM, of Baltimore city; CHAS. R. HOWARD, of Baltimore county; MARTIN GOLDSBOROUGH, of Talbot.

\*In place of Samuel Hamilton, resigned.

scriptions; wheat or grass rakes by horse power, cradles, carts, wagons, wagon gear, cart gear, ox yokes and ox gear.

Best broadcasting and drilling machine, for grain or grass seed, \$10

Best drill for corn or other grain, \$10  
Mowing or reaping machine 5  
horse rake, 2  
set of wagon harness, 2  
ox yoke, 1  
grain cradle, 1  
best wagon for farm use, 5  
ox cart, 5  
horse cart, 5  
set cart gear, 2

#### CLASS No. 3.

Judges—M. T. Goldsborough, Dr. C. F. Shaw, T. A. Spence, Robert Gilmer, L. W. Washington.

Horse powers and all machines propelled by horse power not enumerated above; corn shellers, corn and cob crushers, by hand power, straw cutters, corn stalk cutters, and grinders by hand power.

Best sweep horse power, \$10  
2d do do 5

Best rail way horse power, 10  
Separator, 2  
hay and straw cutter, 2  
corn sheller, 2  
corn stalk cutter and grinder 3  
corn and cob crusher, 3  
Threshing machine, 5  
pump for horse power, 5

#### CLASS No. 4.

Judges—General T. Tilghman, Wm. F. Johnson, James L. Martin, Chapman Billingsley, Samuel Stone.

All implements or machines not enumerated above.

Best Fanning mill, \$3  
Root and vegetable cutter, 1  
Drill Barrow for root crops, 2  
Churn, 2  
Hay and dung Forks, 1  
hand rakes 1

Best and most numerous collection of Agricultural Implements with description thereof, \$20

In addition to the foregoing premiums on agricultural implements, Diplomas and Premiums will be awarded, for such new and meritorious implements as may be exhibited, by the Judges on Discretionary Premiums.

Persons presenting agricultural implements or articles of mechanical ingenuity and utility are requested to furnish the Secretary with a particular description of the article, and the price and place where it can be obtained, as it is intended to publish a list of the articles exhibited at the Fair for the benefit of the manufacturer and purchasers.

### DAIRY & HONEY.

Judges—Richard Thomas, C. P. Craig, Z. Barnum, H. F. Jackson and Wm. Guy.

For best specimens of fresh butter not less than 5 pounds, \$3

2d best do 2  
3d best do 1

For best firkin or tub of salted butter, not less than 6 months old 5

2d best do 3  
3d best do 2

Best cheese, not less than 25lbs. 3

2d do do 1  
For best 10 lbs Honey, \$3

The Honey to be taken without destroying the bees, and the kind of hive used, and the management of same to be stated by competitors.

The method of making the Butter and Cheese to be also stated by each competitor.

### FRUIT.

Judges—Dr. John H. Bayne. Gen'l. Richardson, of Va., Judge Goldsborough, Judge Brewer, Edwin J. Stevens.

For best and greatest number of choice varieties of Apples \$3

Do do do Peaches 3

Do do do Pears 3

Do do do Quinces 3

Do do do Grapes 3

For greatest number of choice varieties of different kinds of fruit 5

2d best do do 3

### VEGETABLES.

Judges—David Kerr, Henry Troup, Col. Walton, T. R. Holliday and Wm. R. Barker.

For the choicest and largest assortment of table vegetables \$5

2d best assortment do 3

For best dozen long blood Beets 1

Do Turnip root beets 1

Do 6 heads of cauliflower 1

Do 6 heads broccoli 1

Do 12 heads cabbage 1

Do dozen carrots 1

Do dozen bunches celery 1

Do doz Egg Plants 1

Do peck of Onions 1

Do dozen Parsnips 1

Do peck Seedling Potatoes 1

Do peck sweet do 1

Do 3 finest Pumpkins 1

Do 6 winter Squashes 1

Do samples of Beans 1

Do do Peas 1

### FLOWERS.

Judges—Edw. Kurtz, Dr. Gideon B. Smith, Robert Buist, Joshua Pearce, John Douglas.

For the greatest and choicest variety of flowers, \$5

2d best collection, 3  
For best and greatest varieties of dahlias, 3  
Do do do roses 3  
Do do do camelias 3  
Do Floral Ornament 5

### HOUSEHOLD MANUFACTURES.

A committee of five ladies to be selected from those attending the Exhibition.

For best Quilt \$5

2d best do 3

Best Counterpane 3

2d do do 2

Best hearth rug 3

do homemade wine 2

do do bounce 2

do do cordial 2

do pair of homemade blankets 2

do best homemade carpet 2

2d best hearth rug 2

Best made shirt 5

2d best do 3

Best fine long yarn hose 3

2d best do 1

Best coarse yarn hose 2

2d do do 1

Best homemade soap 3

2d best do 2

Best homemade bread 2

2d do do 1

Best homemade pound cake 2

do do sponge cake 2

do specimen of Pickles 2

do do of Preserves 2

do do Fruit Jelly 2

do do Embroidery 2

do do worsted work 3

Discretionary premiums of \$1 each can be awarded for meritorious articles not enumerated in above list to the amount of \$10.

### BACON HAMS.

Judges—J. G. Davis, H. Jenkins, K. R. Owen, Bennet Gough, John D. Bowling.

For best ham cured by exhibitor \$6

2d best do 4

3d best do 2

4th best do 1

All competitors for this premium are required to have their Hams cooked and brought to the Exhibition with the skin on, and to produce a statement of the manner of curing.

### PLOUGHING MATCH.

Judges—Edward Stabler, Wm. B. Willis, Basil D. Hall, Edward Plowden, Thomas R. Brown.

For best Ploughing \$8

2d best do 6

3d best do 4

4th best do 2

For best ploughman 4

2d best do 3

3d best do 2

4th best do 1

## Constitution of the Maryland State Agricultural Society.

We, the subscribers, in order to improve Agriculture by attracting the attention, eliciting the views, and combining the efforts of the individuals composing the agricultural community of the State of Maryland,—and aiming at the development of the resources of the soil, so as to promote the prosperity of all concerned in its culture, do hereby form ourselves into a society, and for its government adopt the following constitution:

Art. 1. This society shall be styled, "The Maryland State Agricultural Society."

Art. 2. The objects of this Society shall be, to discover new and hidden manures, to facilitate the collection of manures generally, and designate the best mode of their application to the different objects of cultivation. To procure and improve the implements necessary in husbandry; to improve the style of rural architecture; to improve the breed of domestic animals; to devise means for destroying vermin and insects, which are injurious to husbandry, avoiding their devastations, and guarding against other casualties; to collect all foreign and domestic trees, shrubs, vines, plants, seeds, and grains, which may be deemed necessary or useful for subsistence or comfort; for live fences, fuel, or timber: and to make the necessary experiments as to their growth and adaptation to our climate, and different kinds of growth and culture; to discover, if possible, new and profitable objects of commerce, from the products either of the field, the forest, or the bowels of the earth; and whatever else shall tend to improve the agriculture and rural economy of the country. And the better to effect the above objects, which are hereby declared to be unalterable, and from which the society will never depart, it shall hold annual and special meetings, shall pass all rules and by-laws for its proper government and for the promotion of the ends of the Society, and so soon as its funds are sufficient for that purpose, shall purchase or procure cabinets, collections of implements, libraries, and other aids to the general purposes of the Society.

Art. 3. Any person may become a member of this society, who will subscribe his name to the constitution, or signify by letter his wish to become a member, and who shall at the same time pay into the hands of the Treasurer, at each annual meeting thereafter, the sum of three dollars, except those who may be members for life. Any person who will, at the same time, or at any time thereafter, pay into the hands of the Treasurer 35 dollars, shall be a member for life. Each member shall remain such, until he signify his intention to quit the society at any annual meeting, when upon paying all arrearages, if any be due, he may cease to be a member.

Art. 4. Honorary members, on being proposed at any meeting of the society, may be elected by ballot by a majority of the members present.

Art. 5. The society shall meet annually on the 1st Wednesday in November, but special meetings may be called by the board of managers. The annual and special meetings shall be held in Baltimore, at such hour and place as the board of managers may provide.

Art. 6. The society shall have a President, one Vice President from each county, and from Howard District, Baltimore City, and the District of Columbia, a Corresponding Secretary, a Recording Secretary, a Treasurer, and Five Curators, to be elected by ballot at each annual meeting, by a majority of the members present; and who shall continue in office, until a new election shall be made. They shall be styled, "The Board of Managers of the Maryland State Agricultural Society," and five of whom, with the President, or with such V. P. as he shall appoint in writing, shall constitute a quorum to do business. The board shall possess all the executive powers of the society, except such as are specifically assigned by this constitution, and shall apply and disburse all

moneys appropriated by the society, according to the directions of the society, if any be given; but if no directions be given, then according to their own discretion and judgment; and shall report at each annual meeting a full statement of their proceedings during the preceding year. The Board shall have power to fill any vacancy occurring in that body, and shall meet regularly on the first Wednesday in November, February, May and August in each year, and also at any other times that they may think proper. It shall be their duty to propose at the annual meeting of the society, any alteration in the constitution, which they may deem expedient.

Art. 7. The president, vice presidents, secretaries, and treasurer, shall be the officers equally of the society and of the board.

Art. 8. This constitution may be altered at the annual meetings of the society; but no alteration shall be made, unless it shall first have been recommended by the Board of Managers, and then sanctioned by the votes of two-thirds of the members present; provided, that not fewer than thirty of the members are present; but the quorum to transact the ordinary business of the society, shall consist of thirteen members.

### BY-LAWS.

Art. 1. The President, or in his absence the highest officer present, shall preside at all meetings of this Society, and of the Board.

The duty of the President or presiding officer shall be, to preserve order, regulate the order of proceedings, and give the casting vote when required.

Art. 2. The Corresponding Secretary shall conduct all the correspondence of the society;—he shall preserve the originals of all communications addressed to the society, and keep a fair copy of all his letters in books.

It shall moreover be his duty to read to the Board and to the Society, the correspondence which he has sustained since the previous meeting.

He shall likewise present all the documents, essays, collections or contributions, of whatever nature, that he has received since the last meeting.

Art. 3. The Recording Secretary shall keep the minutes of all meetings of the board and of the society, and, at the opening of each of them, shall read those of the preceding; shall give notice of meetings; he shall have the custody of the constitution, by-laws and records; and he shall keep, in books, a neat and accurate record of all the orders and proceedings of the Board and the Society.

Art. 4. The Treasurer shall receive, and keep deposited in Bank, to the credit of the Society, all donations and bequests of money, and all other sums belonging to the Society. He shall pay all such sums as may be due by the Society, by checks, countersigned by the President, or some member authorized in writing by the President to act in his absence. He shall keep a faithful account of all moneys received and paid by him, and, once in every year, at the meeting next previous to the annual meeting, render a particular statement of the same to the Board, which shall appoint a committee of three members to audit and report on his accounts to the annual meeting.

Art. 5. Any failure on the part of a member, after due notice for six months by the Treasurer, to pay his annual dues, shall be considered a forfeiture of membership, and no person who has thus lost his membership, shall be re-admitted without the strict payment of all arrears.

Art. 6. At each annual meeting the Society shall appoint standing or special committees to consider and report upon such subjects of agricultural interest as may be committed to them.

Art. 7. All vacancies in committees by death, resignation, or otherwise, shall be filled by the remaining members of such committee.